FOR OFFICIAL USE

IONOSPHERIC DATA

ISSUED
NOVEMBER 1953

U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
WASHINGTON, D. C.

CRPL-F 111

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Issued
24 Nov 1953

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CONTENTS

SYMBOLS, TERMINOLOGY, CONVENTIONS

Beginning with data reported for January 1952, the symbols, terminology, and conventions for the determination of median values used in this report (CRPL-F series) conform as far as practicable to those adopted at the Sixth Meeting of the International Radio Consultative Committee (C.C.I.R.) in Geneva, 1951. Excerpts concerning symbols and terminology from Document No. 626-E of this Meeting are given on pages 2-7 of the report CRPL-F89, "Ionospheric Data," issued January 1952. Reprints of these pages are available upon request.

Beginning with data for January 1945, median values are published wherever possible. Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data exist.

The following conventions are used in determining the medians for hours when no measured values are given because of equipment limitations and ionospheric irregularities. Symbols used are those given in Document No. 626-E referred to above.

a. For all ionospheric characteristics:

Values missing because of A, C, F, L, M, N, Q, S, or T are omitted from the median count.

b. For critical frequencies and virtual heights:

Values of foF2 (and foE near sunrise and sunset) missing because of E are counted as equal to or less than the lower limit of the recorder. Values of h'F2 (and h'E near sunrise and sunset) missing for this reason are counted usually as equal to or greater than the median. Other characteristics missing because of E are omitted from the median count.

Values missing because of D are counted as equal to or greater than the upper limit of the recorder.

Values missing because of G are counted:

1. For foF2, as equal to or less than foF1.
2. For h'F2, as equal to or greater than the median.

The symbol W is included in the median count only when it replaces a height characteristic. This practice represents a change from that listed in issues previous to CRPL-F78.

Values missing for any other reason are omitted from the median count.

c. For MUF factor (M-factors):

Values missing because of G or W are counted as equal to or less than the median.

Values missing for any other reason are omitted from the median count.

d. For sporadic E (Es):

Values of fEs missing because of E or G (and B when applied to the daytime E region only) are counted as equal to or less than the median foE, or equal to or less than the lower frequency limit of the recorder.

Values of fEs missing for any other reason, and values of h'Es missing for any reason at all are omitted from the median count.

Beginning with data for November 1945, doubtful monthly median values for ionospheric observations at Washington, D. C., are indicated by parentheses, in accordance with the practice already in use for doubtful hourly values. The following are the conventions used to determine whether or not a median value is doubtful:

1. If only four values or less are available, the data are considered insufficient and no median value is computed.

2. For the F2 layer, if only five to nine values are available, the median is considered doubtful. The E and F1 layers are so regular in their characteristics that, as long as there are at least five values, the median is not considered doubtful.

3. For all layers, if more than half of the values used to compute the median are doubtful (either doubtful or interpolated), the median is considered doubtful.

The same conventions are used by the CRPL in computing the medians from tabulations of daily and hourly data for stations other than Washington, beginning with the tables in IRPL-F18.

The tables and graphs of ionospheric data are correct for the values reported to the CRPL, but, because of variations in practice in the interpretation of records and scaling and manner of reporting of values, may at times give an erroneous conception of typical ionospheric characteristics at the station. Some of the errors are due to:

a. Differences in scaling records when spread echoes are present.

b. Omission of values when foF2 is less than or equal to foF1, leading to erroneously high values of monthly averages or median values.

c. Omission of values when critical frequencies are less than the lower frequency limit of the recorder, also leading to erroneously high values of monthly average or median values.

These effects were discussed on pages 6 and 7 of the previous F-series report IRPL-F5.

Ordinarily, a blank space in the fEs column of a table is the result of the fact that a majority of the readings for the month are below the lower limit of the recorder or less than the corresponding values of foE. Blank spaces at the beginning and end of columns of h'F1, foF1, h'E, and foE are usually the result of diurnal variation in these characteristics. Complete absence of medians of h'F1 and foF1 is usually the result of seasonal effects.

The dashed-line prediction curves of the graphs of ionospheric data are obtained from the predicted zero-muf contour charts of the CRPL-D series publications. The following points are worthy of note:

a. Predictions for individual stations used to construct the charts may be more accurate than the values read from the charts since some smoothing of the contours is necessary to allow for the longitude effect within a zone. Thus, inasmuch as the predicted contours are for the center of each zone, part of the discrepancy between the predicted and observed values as given in the F series may be caused by the fact that the station is not centrally located within the zone.

b. The final presentation of the predictions is dependent upon the latest available ionospheric and radio propagation data, as well as upon predicted sunspot number.

c. There is no indication on the graphs of the relative reliability of the data; it is necessary to consult the tables for such information.

The following predicted smoothed 12-month running-average Zürich sunspot numbers were used in constructing the contour charts:

Month	Predicted Sunspot Number								
	1953	1952	1951	1950	1949	1948	1947	1946	1945
December		33	53	86	108	114	126	85	38
November		38	52	87	112	115	124	83	36
October	17	43	52	90	114	116	119	81	23
September	18	46	54	91	115	117	121	79	22
August	18	49	57	96	111	123	122	77	20
July	20	51	60	101	108	125	116	73	
June	21	52	63	103	108	129	112	67	
May	22	52	68	102	108	130	109	67	
April	24	52	74	101	109	133	107	62	
March	27	52	78	103	111	133	105	51	
February	29	51	82	103	113	133	90	46	
January	30	53	85	105	112	130	88	42	

WORLD-WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 48 and figures 1 to 96 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL prediction of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data in this issue:

Republica Argentina, Ministerio de Marina:
Buenos Aires, Argentina
Decepcion I.

Australian Department of Supply and Shipping, Bureau of Mineral Resources, Geology and Geophysics:
Watheroo, Western Australia

Meteorological Service of the Belgian Congo and Ruanda-Urundi:
Leopoldville, Belgian Congo

Defence Research Board, Canada:
- Baker Lake, Canada
- Churchill, Canada
- Fort Chimo, Canada
- Ottawa, Canada
- Prince Rupert, Canada
- Resolute Bay, Canada
- St. John's, Newfoundland
- Winnipeg, Canada

The Royal Netherlands Meteorological Institute:
- De Bilt, Holland

Indian Council of Scientific and Industrial Research, Radio Research Committee:
- Calcutta, India

Ministry of Postal Services, Radio Research Laboratories, Tokyo, Japan:
- Akita, Japan
- Tokyo (Kokubunji), Japan
- Wakkanai, Japan
- Yamagawa, Japan

Christchurch Geophysical Observatory, New Zealand Department of Scientific and Industrial Research:
- Christchurch, New Zealand
- Barotonga, Cook Is.

Norwegian Defence Research Establishment, Kjeller per Lillestrom, Norway:
- Oslo, Norway
- Tromso, Norway

Manila Observatory:
- Baguio, P. I.

Research Institute of National Defence, Stockholm, Sweden:
- Upsala, Sweden

Post, Telephone and Telegraph Administration, Berne, Switzerland:
- Schwarzenburg, Switzerland

United States Army Signal Corps:
- Okinawa I.
- White Sands, New Mexico

National Bureau of Standards (Central Radio Propagation Laboratory):
- Anchorage, Alaska
- Baton Rouge, Louisiana (Louisiana State University)
- Fairbanks, Alaska (Geophysical Institute of the University of Alaska)
- Guam I.
- Maui, Hawaii
- Narsarssuak, Greenland
- Panama Canal Zone
- Point Barrow, Alaska
- Puerto Rico, W. I.
- San Francisco, California (Stanford University)
- Washington, D. C.

HOURLY IONOSPHERIC DATA AT WASHINGTON, D. C.

The data given in tables 49 through 60 follow the scaling practices given in the report IRPL-C61, "Report of International Radio Propagation Conference," pages 36 to 39, and the median values are determined by the conventions given above under "Symbols, Terminology, Conventions." Beginning with September 1949, the data are taken at Ft. Belvoir, Virginia.

IONOSPHERIC STORMINESS AT WASHINGTON, D.C.

Table 61 presents ionosphere character figures for Washington, D. C., during October 1953, as determined by the criteria given in the report IRPL-R5, "Criteria for Ionospheric Storminess," together with Cheltenham, Maryland, geomagnetic K-figures, which are usually covariant with them.

RELATIVE SUNSPOT NUMBERS

Table 62 lists the daily provisional Zürich relative sunspot number, R_Z, as communicated by the Swiss Federal Observatory. Publication of the American relative sunspot numbers, $R_{A'}$, which usually appear monthly in these pages, is temporarily suspended until new arrangements are made for the reduction of the observations made by the Solar Division of the AAVSO.

Tables 63a and 63b give for September 1953 the radio propagation quality figures for the North Atlantic area, CRPL advance and short-term forecasts, a summary geomagnetic activity index and sundry comparisons, specifically as follows:

(a) radio propagation quality figures, separately for each 6-hour interval of the Greenwich day, viz., 00-06, 06-12, 12-18, 18-24 hours UT (Universal Time or GCT).
(b) whole-day radio quality indices (beginning October 1952). Each index is a weighted average of the four quarter-day Q-figures, before rounding off, with half weight given to quality grades 5 and 6. This procedure tends to give whole-day indices suitable for comparison with whole-day advance forecasts which designate whenever possible the days when significant disturbance or unusually quiet conditions will occur.
(c) short-term forecasts, issued by CRPL every six hours (nominally one hour before 00^h, 06^h, 12^h, 18^h UT) and applicable to the period 1 to 13 (especially 1 to 7) hours ahead. Note that new scoring rules have been adopted beginning with October 1952 data.
(d) advance forecasts, issued semiweekly (CRPL-J reports) and applicable 1 to 3 or 4 days ahead, 4 or 5 to 7 days ahead, and 8 to 25 days ahead. These forecasts are scored against the whole-day quality indices.
(e) half-day averages of the geomagnetic K indices measured by the Cheltenham Magnetic Observatory of the U. S. Coast and Geodetic Survey.
(f) illustration of the comparison of short-term forecasts with Q-figures and also with estimates of radio quality based on CRPL observations only.
(g) illustration of the outcome of advance forecasts (1 to 3 or 4 days ahead) and, for comparison, the outcome of a type of "blind" forecast. For the latter the frequency for each quality grade, as determined from the distribution of quality grades in the four most recent months of the current season, is partitioned among the grades observed in the current month in proportion to the frequencies observed in the current month.

The radio propagation quality figures are prepared from radio traffic data reported to CRPL by American Telephone and Telegraph Company, Mackay Radio and Telegraph Company, RCA Communications, Inc., Marconi Company, British Admiralty Signal and Radar Establishment, and the following agencies of the U. S. Government:--Coast Guard, Navy, Army Signal Corps, and State Department. The method of calculation, summarized below, is similar to that described in a 1946 report, IRPL-R31, now out of print. Beginning with recalculated figures for January 1952, only reports of radio transmission on North Atlantic paths closely approximating New York-London are included in the estimation of quality. Observations of selected ionospheric characteristics, even though strongly correlated with radio transmission quality, and traffic reports for paths such as New York-Stockholm or New York-Tangier, previously included in the quality-figure determination with low weight, have been left out of the present calculations inasmuch as a sufficient number of homogeneous reports are now available.

The original reports are submitted on various scales and for various time intervals. The observations for each 6-hour interval are averaged on the quality scale of the original reports. These 6-hour indices are then adjusted to the 1 to 9 quality-figure scale by a conversion table prepared by comparing the distribution of these indices for at least four months, usually a year,

with a master distribution determined from analysis of the reports originally made on the 1 to 9 quality-figure scale. A report whose distribution is the same as the master is thereby converted linearly to the Q-figure scale. The 6-hourly quality figures are (subjectively) weighted means of the reports received for that period. These 6-hourly quality figures replace, beginning January 1953, the half-daily quality figures which formerly appeared in this table.

These quality figures are, in effect, a consensus of reported radio propagation conditions in the North Atlantic area. The reasons for low quality are not necessarily known and may not be limited to ionospheric storminess. For instance, low quality may result from improper frequency usage for the path and time of day. Although, wherever it is reported, frequency usage is included in the rating of reports, it must often be an assumption that the reports refer to optimum working frequencies. It is more difficult to eliminate from the indices conditions of low quality because of multipath, interference, etc. These considerations should be taken into account in interpreting research correlations between the Q-figures and solar, auroral, geomagnetic or similar indices.

Note. The North Pacific quality figures, which were published through October 1951, have been temporarily discontinued. Since the establishment of the North Pacific Radio Warning Service at Anchorage, Alaska, a larger number of reports are being received than were previously available in Washington. The preparation of the quality figures will be resumed when sufficient data have been accumulated for determination of conversion tables for these new reports.

OBSERVATIONS OF THE SOLAR CORONA

Tables 64 through 66 give the observations of the solar corona during October 1953, obtained at Climax, Colorado, by the High Altitude Observatory of Harvard University and the University of Colorado. Tables 67 through 69 list the coronal observations obtained at Sacramento Peak, New Mexico, during October 1953, derived by Harvard College Observatory as a part of its performance of a research contract with the Upper Air Research Observatory, Geophysical Research Directorate, Air Force Cambridge Research Center. The data are listed separately for east and west limbs at 5-degree intervals of position angle north and south of the Solar Equator at the limb. The time of observation is given to the nearest tenth of a day, GCT.

Table 64 gives the intensities of the green (5303A) line of the emission spectrum of the solar corona; table 65 gives similarly the intensities of the first red (6374A) coronal line; and table 66, the intensities of the second red (6702A) coronal line; all observed at Climax in October 1953.

Table 67 gives the intensities of the green (5303A) coronal line; table 68, the intensities of the first red (6374A) coronal line; and table 69, the intensities of the second red (6702A) coronal line; all observed at Sacramento Peak in October 1953.

The following symbols are used in tables 64 through 69: a, observation of low weight; -, corona not visible; and X, position angle not included in plate estimates.

SUDDEN IONOSPHERE DISTURBANCES

Tables 70, 71, and 72 list respectively the sudden ionosphere disturbances observed at Ft. Belvoir, Virginia, October 1953; in England, October 1953; and in the Netherlands, July and November 1952 and March, May, and August 1953.

OBSERVATIONS OF SOLAR FLARES

Table 73 gives the preliminary record of solar flares reported to the CRPL. These reports are communicated on a rapid schedule at the sacrifice of detailed accuracy. Definitive and complete records are published later in the Quarterly Bulletin of Solar Activity, I.A.U., in various observatory publications, and elsewhere. The present listing serves to identify and roughly describe the phenomena observed. Details should be sought from the reporting observatory.

Reporting directly to the CRPL are the following observatories; Mt. Wilson, McMath-Hulbert, U. S. Naval, Wendelstein, Kanzel and High Altitude at Sacramento Peak, New Mexico. The remainder report to Meudon (Paris) and the data are taken from the Paris-URSIgram broadcast, monitored fairly regularly by the CRPL. The data on solar flares reported from Sacramento Peak, New Mexico, communicated by the High Altitude Observatory at Boulder, Colorado, are provided by Harvard University as the result of work undertaken on an Air Materiel Command Research and Development Contract administered by the Air Force Cambridge Research Laboratories.

The table lists for each flare the reporting observatory, date, times of beginning and ending of observation, duration (when known), total area (corrected for foreshortening), and heliographic coordinates. For the maximum phase of the flare is given the time, intensity, area relative to the total area, and the importance. The column "SID observed" is to indicate when a sudden ionosphere disturbance, noted elsewhere in these reports, occurred at the time of a flare. Times are in Universal Time (GCT).

INDICES OF GEOMAGNETIC ACTIVITY

Table 74 lists various indices of geomagnetic activity based on data from magnetic observatories widely distributed throughout the world. The indices are: (1) preliminary international character-figures, C; (2) geomagnetic planetary three-hour-range indices, Kp; (3) magnetically selected quiet and disturbed days.

The C-figure is the arithmetic mean of the subjective classification by all observatories of each day's magnetic activity on a scale of 0 (quiet) to 2 (storm). The magnetically quiet and disturbed days are selected by the international scheme outlined on pages 219-227 in the December 1943 issue of Terrestrial Magnetism and Atmospheric Electricity. The details of the currently used method follow. For each day of a month, its geomagnetic activity is assigned by weighting equally the following four criteria: (1) C; (2) the sum of the eight Kp's; (3) the greatest Kp; and (4) the sum of the squares of the eight Kp's.

Kp is the mean standardized K-index from 11 observatories between geomagnetic latitudes 47 and 63 degrees. The scale is 0 (very quiet) to 9 (extremely disturbed), expressed in thirds of a unit, e.g., 5- is 4 2/3, 5o is 5 0/3, and 5+ is 5 1/3. This planetary index is designed to measure solar particle-radiation by its magnetic effects, specifically to meet the needs of research workers in the ionospheric field. A complete description of Kp has appeared in Bulletin 12b, "Geomagnetic Indices C and K, 1948," published in Washington, D. C., 1949, by the Association of Terrestrial Magnetism and Electricity, International Union of Geodesy and Geophysics. Kp is available from 1937 to date as noted in F108.

The Committee on Characterization of Magnetic Disturbance, ATME, IUGG, has kindly supplied this table. The Meteorological Office, De Bilt, Holland, collects the data and compiles C and selected days. The Chairman of the Committee computes the planetary index. Current tables are also published quarterly in the Journal of Geophysical Research along with data on sudden commencements (sc) and solar flare effects (sfe).

ERRATA

1. CRPL-F 110, p. 50, fig. 8: h'F2 at 02 should read "<320."

2. CRPL-F 110, p. 52, fig. 13: foF2 at 05 should read "<3.3."

Table 1

Washington, D. C. (38.7°N, 77.1°W) October 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(270)	2.8						3.1
01	(260)	2.7						3.1
02	250	2.6						3.1
03	260	2.6						3.1
04	(250)	2.5						3.2
05	(250)	2.4						3.3
06	(250)	2.8					2.2	3.3
07	240	4.3	230	—	(120)	(1.8)	1.8	3.5
08	250	5.0	220	—	110	2.4	3.2	3.5
09	260	5.6	210	3.8	110	2.6	2.9	3.5
10	270	5.8	200	4.0	100	2.8	2.7	3.4
11	280	6.2	200	4.1	100	2.9		3.3
12	290	6.2	200	4.2	100	3.0		3.3
13	280	6.3	210	4.1	100	3.0		3.3
14	270	6.2	210	4.0	100	2.9		3.3
15	270	6.1	220	3.6	100	2.6	2.2	3.3
16	250	6.0	230	—	110	2.3	2.3	3.4
17	230	5.7	—	—	(120)	1.8	2.4	3.5
18	220	4.7					1.3	3.4
19	240	3.8					2.1	3.3
20	(250)	3.3					2.5	3.2
21	(270)	2.8						3.1
22	(270)	2.7						3.0
23	(270)	2.7						3.1

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 2

Tromso, Norway (69.7°N, 19.0°E) September 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	—	—					4.2	—
01	—	—					3.7	—
02	—	(2.6)					3.9	—
03	(320)	(2.2)			—	—	3.6	(2.9)
04	(290)	2.2			—	—	2.7	3.0
05	295	2.8	—	—	—	—	1.8	3.0
06	—	3.3	265	—	—	—	1.9	3.2
07	—	3.8	250	—	—	—	2.3	3.2
08	(290)	4.1	240	—	—	2.1	1.7	3.2
09	320	4.4	225	3.6	120	2.3		3.2
10	310	4.5	220	3.8	120	—		3.3
11	340	4.4	220	3.8	115	2.4		3.2
12	325	4.6	225	3.8	110	2.4		3.2
13	320	4.4	220	3.8	120	2.4	1.4	3.2
14	310	4.4	225	3.8	120	2.3	2.3	3.4
15	290	4.2	230	—	120	2.2	1.7	3.3
16	270	4.1	240	—	125	1.9	2.3	3.4
17	250	4.0	245	—	108	1.7	2.7	3.3
18	290	3.8	—	—	—	—	3.8	3.2
19	(260)	3.4			—	—	3.8	3.2
20	(325)	3.4					3.9	(3.0)
21	—	(3.2)					4.6	(3.1)
22	(358)	(3.4)					4.2	(3.0)
23	—	(2.8)					3.7	(3.0)

Time: 15.0°E.
Sweep: 0.8 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 3

Fairbanks, Alaska (64.9°N, 147.8°W) September 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(340)	—					5.3	—
01	(360)	(2.4)					4.8	(3.2)
02	(380)	(2.1)					5.0	(3.2)
03	(360)	(2.2)					6.0	(2.8)
04	(350)	—					5.6	—
05	350	2.7			—	—	4.2	(3.3)
06	260	3.1	250	3.2	120	2.0	3.4	3.3
07	320	3.4	230	3.2	110	2.1		3.3
08	380	3.6	220	3.3	110	2.3	2.4	2.8
09	350	3.8	210	3.6	110	2.5		2.8
10	380	4.0	210	3.6	110	2.6		3.0
11	370	4.2	210	3.7	110	2.6		3.0
12	350	4.2	220	3.7	110	2.5		3.2
13	360	4.2	220	3.7	120	2.4		3.2
14	350	4.2	220	3.7	120	2.3		3.3
15	320	4.4	220	3.6	120	2.2		3.4
16	300	4.0	230	—	120	2.0		3.5
17	260	3.8	240	—	120	1.9		3.4
18	250	3.8	—	—	—	—	2.0	3.5
19	260	3.5						3.4
20	260	3.1					3.5	3.3
21	270	2.9					4.8	3.4
22	300	(2.4)					4.0	(3.2)
23	300	—					4.8	—

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 4

Anchorage, Alaska (61.2°N, 149.9°W) September 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	335	2.2					2.6	2.8
01	335	2.3					2.8	2.8
02	350	2.1					2.8	2.8
03	380	2.2					2.8	2.7
04	(340)	2.5	—	—			2.6	2.8
05	280	2.4	—	—	—	—	2.0	3.0
06	250	3.0	240	2.7	110	1.7		3.2
07	300	3.5	230	3.2	110	2.0		3.0
08	405	3.8	210	3.3	105	2.4		2.9
09	400	3.8	200	3.6	100	2.6		2.9
10	420	4.0	200	3.7	100	2.6		2.9
11	405	4.3	200	3.8	100	2.8		2.9
12	400	4.3	200	3.8	100	2.8		2.9
13	405	4.2	200	3.8	100	2.8		2.9
14	350	4.2	210	3.8	100	2.6		3.1
15	330	4.2	210	3.7	100	2.5		3.1
16	290	4.1	220	3.5	100	2.3		3.2
17	270	4.0	230	—	110	2.0		3.2
18	250	3.9	—	—	—	—		3.3
19	245	3.7						3.2
20	250	3.0						3.0
21	280	2.4					2.2	3.0
22	280	2.4					2.2	3.0
23	300	2.3						2.9

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 5

Narsarssuak, Greenland (61.2°N, 45.4°W) September 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(330)	(3.0)					5.6	(2.8)
01	—	(3.4)					4.8	—
02	—	—					5.0	—
03	—	(3.4)					4.8	—
04	—	(3.4)					5.3	—
05	(340)	(2.5)			—	—	5.2	(3.1)
06	(270)	(3.4)			—	—	4.7	(3.4)
07	(240)	3.9	—	—	—	(2.2)	3.5	(3.4)
08	260	4.2	230	—	100	(2.3)	2.6	3.3
09	310	4.4	220	3.8	100	(2.8)		3.3
10	330	(4.7)	200	3.8	100	2.7		3.2
11	390	4.4	220	3.9	100	2.8		3.0
12	380	4.6	210	3.9	100	2.8		3.0
13	360	(4.8)	200	3.9	100	2.8		3.1
14	330	4.9	220	3.8	100	2.6	3.0	3.1
15	350	4.8	230	3.8	100	2.4	3.2	3.0
16	(340)	(4.3)	230	(3.6)	100	2.2	3.8	(3.0)
17	300	(4.1)	230	—	110	2.0	4.2	(3.1)
18	300	(3.8)			—	—	4.6	(3.1)
19	(300)	(3.6)					5.2	(3.0)
20	300	(3.6)					7.1	(2.9)
21	(280)	(3.1)					6.0	(3.0)
22	(280)	(3.2)					6.2	(2.9)
23	(320)	(3.0)					5.6	(2.8)

Time: 45.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 6

Oslo, Norway (60.0°N, 11.1°E) September 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(290)	2.0						2.9
01	300	1.8						2.9
02	300	1.6					2.6	2.8
03	300	1.4					2.5	2.8
04	300	1.4					2.5	2.9
05	275	2.0			—	—	2.6	3.0
06	250	2.8	—	—	105	1.8	1.7	3.1
07	—	3.8	240	—	105	1.8	2.2	(3.4)
08	—	3.9	220	—	110	2.1	2.7	(3.3)
09	340	4.3	220	3.6	105	2.3	2.8	3.1
10	340	4.6	205	3.8	105	2.5	3.0	3.1
11	330	4.6	200	3.9	105	2.6	2.9	3.2
12	330	4.8	200	4.0	110	2.7	2.9	3.2
13	320	4.8	200	3.9	105	2.7	2.8	3.2
14	320	4.8	210	3.8	105	2.6	2.7	3.1
15	305	4.8	215	3.7	105	2.5		3.3
16	(285)	4.6	220	3.6	105	2.3	2.7	3.2
17	255	4.8	240	—	110	2.0	2.5	3.2
18	250	4.8	245	—	110	1.6	2.8	3.1
19	250	4.7			—	—		3.1
20	250	4.5						3.0
21	250	4.0						3.0
22	250	3.0						3.0
23	260	2.4						2.9

Time: 15.0°E.
Sweep: 0.6 Mc to 14.0 Mc in 8 minutes, automatic operation.

Table 7

Upsala, Sweden (59.8°N, 17.6°E) September 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	——	2.1					3.2	2.7
01	——	2.0					2.5	2.7
02	——	2.0					2.9	2.7
03	——	2.0					3.2	(2.7)
04	——	1.9			——	——	2.7	2.7
05	295	2.2	——	——	——	E	2.4	2.9
06	255	3.2	235	2.8	——	E	2.1	3.1
07	(300)	3.7	230	(3.2)	120	2.0	2.3	3.2
08	265	4.2	225	3.4	115	2.2	2.4	3.1
09	340	4.6	215	3.7	110	2.4	2.4	3.0
10	315	4.8	215	3.8	110	2.6	2.7	3.2
11	320	4.8	210	4.0	110	2.6	2.8	3.1
12	320	4.9	210	4.0	115	2.7	3.0	3.1
13	316	4.9	210	3.9	116	2.6	2.4	3.1
14	296	4.9	215	3.8	116	2.6		3.2
15	275	4.8	220	3.6	115	2.4	1.7	3.2
16	250	4.7	230	(3.3)	115	2.1		3.2
17	260	4.7	240	(3.0)	120	1.8	2.8	3.1
18	240	4.7	255	——	——	E	2.4	3.1
19	245	4.6			——	E	2.7	3.0
20	255	4.1					2.3	3.0
21	260	3.4					2.2	3.0
22	300	2.6					2.2	2.9
23	400	2.2					2.3	2.8

Time: 15.0°E.
Sweep: 1.4 Mc to 17.0 Mc in 6 minutes, automatic operation.

Table 8

San Francisco, California (37.4°N, 122.2°W) September 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(280)	(3.1)					2.5	(3.1)
01	(270)	(3.0)					2.2	(3.1)
02	(280)	(3.0)					2.1	(3.0)
03	(280)	(2.8)					2.2	(3.1)
04	(280)	(2.8)					2.2	(3.1)
05	(280)	(2.8)					2.7	(3.0)
06	270	(3.2)	——	——			2.8	(3.2)
07	300	(4.0)	220	3.4	110	(2.0)	3.3	(3.2)
08	340	4.6	210	(3.7)	110	(2.4)	3.9	3.1
09	340	4.9	200	(4.0)	110	(2.6)	4.1	3.1
10	340	5.2	190	(4.2)	100	(2.9)	3.6	3.1
11	340	5.3	200	4.2	100	(3.0)	4.0	3.1
12	330	5.5	200	4.2	100	(3.1)	4.0	3.0
13	330	5.6	210	(4.2)	100	(3.1)	4.0	3.0
14	320	5.6	210	(4.1)	110	(3.0)	3.6	3.2
15	300	5.2	220	(4.0)	110	(2.8)	3.4	3.2
16	280	5.3	230	(3.8)	110	(2.5)	2.0	3.2
17	250	5.4	230	——	120	2.0	3.2	3.4
18	240	4.9	250	——			2.7	3.4
19	230	(4.3)					2.4	3.2
20	(240)	4.0					2.6	3.2
21	(250)	(3.7)					3.8	(3.1)
22	(260)	(3.3)					3.2	(3.1)
23	(260)	(3.2)					3.1	(3.1)

Time: 120.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 9

White Sands, New Mexico (32.3°N, 106.5°W) September 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	3.4						3.1
01	290	3.2						3.0
02	280	3.2						3.0
03	270	3.2						3.0
04	280	3.1						3.0
05	280	3.0						3.1
06	240	3.6	——	——	120	1.7		3.2
07	260	5.0	220	3.5	110	2.1	3.0	3.3
08	280	6.4	200	3.9	110	2.5	3.1	3.3
09	300	5.8	200	4.1	110	2.8	3.6	3.3
10	300	6.9	190	4.3	110	2.9	3.5	3.1
11	310	6.1	190	4.4	110	3.1	3.8	3.1
12	320	6.6	200	4.4	110	3.2	3.0	3.0
13	310	6.8	200	4.4	110	3.1	3.2	3.0
14	300	6.6	200	4.3	110	3.1	3.2	3.1
15	290	6.5	220	4.2	100	3.0	2.7	3.2
16	270	6.2	220	3.9	100	2.6	2.4	3.3
17	250	6.0	230	——	110	2.1	3.0	3.3
18	220	5.6	——	——	——	——	2.3	3.4
19	230	4.8						3.2
20	250	4.0						3.1
21	270	3.8						3.1
22	270	3.7						3.0
23	280	3.6						3.0

Time: 105.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 10

Okinawa I. (26.3°N, 127.8°E) September 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	310	4.0					3.2	2.9
01	280	3.8						3.0
02	260	3.5						3.2
03	260	3.2						3.2
04	280	2.8						(3.1)
05	270	3.0						(3.1)
06	240	4.6	——	——	110	2.0		3.5
07	230	6.4	220	——	110	2.1	3.5	3.7
08	250	6.6	210	4.0	110	2.5	4.2	3.6
09	260	6.6	200	4.3	110	2.8	4.4	3.6
10	280	6.8	200	4.5	110	3.0	4.8	3.2
11	310	8.1	200	4.6	110	3.1	4.4	3.1
12	300	8.9	200	4.6	110	3.1	4.4	3.1
13	300	8.9	200	4.5	110	3.2	4.4	3.2
14	300	8.7	210	4.5	110	3.1	3.9	3.1
15	290	9.6	220	4.3	110	3.0	3.8	3.2
16	260	10.0	220	4.0	110	2.7	4.0	3.4
17	250	9.2	230	——	110	2.1	4.8	3.4
18	230	9.2					3.8	3.5
19	210	7.3					3.9	3.5
20	220	5.0					3.6	3.4
21	260	3.8					3.6	2.9
22	300	3.9					2.2	2.9
23	300	4.0					2.3	2.9

Time: 127.5°E.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 11

Maui, Hawaii (20.8°N, 156.5°W) September 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	3.6					3.2	2.9
01	280	3.8					2.6	3.1
02	260	3.2					2.4	3.2
03	240	3.2					2.4	3.3
04	250	2.4					1.8	3.2
05	270	2.2					1.8	3.0
06	280	2.8					2.1	3.0
07	260	4.9	240	——	110	1.9	3.9	3.3
08	280	5.6	220	4.0	110	2.5	5.0	3.2
09	320	6.2	220	4.3	110	2.8	5.2	3.0
10	380	6.6	210	4.6	110	3.1	6.4	2.7
11	380	7.5	210	4.5	110	3.2	6.2	2.7
12	360	8.5	220	4.5	110	3.4	6.2	2.7
13	340	9.6	220	4.6	110	3.4	5.5	2.9
14	320	9.9	220	4.5	110	3.3	4.9	3.0
15	310	9.4	220	4.3	110	3.1	5.2	3.0
16	290	9.9	220	4.2	110	2.8	4.4	3.2
17	260	10.2	230	3.7	110	2.3	4.8	3.4
18	230	8.3	——	——	——	——	4.0	3.5
19	220	6.6					3.4	3.4
20	220	4.4					3.0	3.2
21	260	3.8					2.8	2.9
22	300	3.3					3.2	2.8
23	300	3.4					3.6	3.0

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 12

Puerto Rico, W.I. (18.5°N, 67.2°W) September 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	3.8					2.1	3.0
01	260	3.9					2.8	3.1
02	230	3.8					2.3	3.3
03	220	3.6					2.3	3.4
04	220	3.0					2.0	3.3
05	240	2.6						3.1
06	240	2.8					2.6	3.3
07	220	4.8	210	——	110	1.8		3.7
08	240	6.4	220	——	100	2.5	4.0	3.5
09	270	5.7	200	4.3	100	2.9	4.0	3.4
10	280	6.0	200	4.5	100	3.1	4.4	3.3
11	300	6.8	200	4.6	100	3.3		3.1
12	310	7.5	200	4.6	100	3.4		3.0
13	300	8.4	210	4.5	100	3.4		3.0
14	280	8.8	210	4.4	100	3.3		3.1
15	270	8.8	210	4.3	100	3.1		3.2
16	250	8.8	210	4.1	100	2.9	4.0	3.4
17	240	7.9	210	3.7	100	2.4	4.2	3.4
18	220	6.9	210	——	——	——	3.2	3.5
19	200	5.6					3.1	3.4
20	230	4.5					3.1	3.1
21	260	4.0					2.9	3.0
22	280	3.8					2.6	2.9
23	280	3.8					2.8	2.9

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 13

Guam I. (13.6°N, 144.9°E) September 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	3.8						3.0
01	270	3.8						3.2
02	260	3.2						3.3
03	250	3.0						3.4
04	260	3.2					2.2	(3.3)
05	250	2.3						3.4
06	260	2.7						3.2
07	240	6.8	230	—	120	2.1	2.6	3.4
08	260	7.1	210	—	110	2.6	3.3	3.1
09	300	7.8	200	—	110	2.9	4.0	2.9
10	330	8.6	190	4.4	110	3.1	4.4	2.6
11	340	8.4	200	4.4	(110)	(3.3)	4.1	2.6
12	350	8.6	200	4.6	110	(3.4)	4.5	2.6
13	340	8.8	210	4.6	110	(3.4)	4.3	2.6
14	340	9.1	210	4.4	110	(3.2)	4.7	2.8
16	320	9.9	220	4.3	110	3.1	5.2	2.9
16	300	10.7	220	4.1	110	2.8	6.6	3.1
17	270	11.0	230	—	110	(2.3)	4.0	3.2
18	260	10.6	240	—			3.4	3.2
19	240	10.0					2.6	3.2
20	240	8.4					2.2	3.3
21	240	6.6						3.2
22	250	5.4						3.2
23	280	4.6						3.0

Time: 150.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 16 seconds.

Table 14

Panama Canal Zone (9.4°N, 79.9°W) September 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	3.8						3.1
01	240	4.0					1.7	3.2
02	230	3.7					2.0	3.4
03	220	3.2						3.3
04	250	3.0					2.0	3.2
05	240	2.7					2.8	3.2
06	250	2.9					3.0	3.2
07	240	4.9	220	—	110	2.0	4.1	3.4
08	280	5.6	220	4.3	110	2.6	4.2	3.3
09	350	6.1	220	4.4	110	3.0	4.9	2.9
10	370	7.3	210	4.5	100	3.3	4.3	2.8
11	380	8.8	210	4.6	100	3.4	5.1	2.7
12	340	10.0	200	4.6	100	3.4	4.9	2.9
13	330	11.0	220	4.5	110	3.4	5.0	3.0
14	320	11.8	220	4.6	100	3.3	6.0	3.0
16	290	12.0	220	4.3	110	3.2	5.4	3.1
16	260	12.6	220	4.2	110	2.9	4.4	3.3
17	250	11.6	220	3.8	110	2.4	4.3	3.4
18	220	9.6					3.4	3.4
19	220	7.4					3.1	3.2
20	230	6.8					2.2	3.2
21	250	4.6					2.1	3.0
22	280	4.2					2.0	2.9
23	290	4.1					1.8	2.9

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 15

Resolute Bay, Canada (74.7°N, 94.9°W) August 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	3.7	—	—	—	1.5		3.0
01	250	3.4	—	—	140	1.4		3.0
02	260	3.3	—	—	120	1.5		3.1
03	270	3.3	230	2.8	120	1.6		3.0
04	280	3.6	250	3.1	120	1.7		3.0
05	300	3.6	240	3.0	120	1.8		2.9
06	480	3.4	240	3.2	110	2.1		2.8
07	460	3.6	230	3.3	110	2.3		2.6
08	530	3.6	220	3.4	110	2.4		2.6
09	460	4.0	220	3.6	110	2.6		(2.5)
10	400	4.0	220	3.5	100	2.6		2.8
11	430	4.0	210	3.6	100	2.6		(2.7)
12	460	4.0	210	3.6	100	2.6		(2.6)
13	600	4.0	210	3.6	100	2.6		(2.6)
14	500	3.9	210	3.6	100	2.6		(2.6)
15	420	4.0	210	3.4	110	2.6		(2.7)
16	400	4.0	220	3.4	110	2.4		2.9
17	400	4.0	220	3.3	110	2.3		2.8
18	390	4.0	220	3.3	110	2.1		2.8
19	310	3.8	230	3.2	120	2.0		3.0
20	260	3.8	240	3.0	120	1.9		3.0
21	260	3.9	250	—	120	1.7		3.0
22	260	3.9	240	—	110	1.6		3.1
23	260	3.7	240	—	130	1.4		3.0

Time: 90.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 16 seconds.

Table 16

Baker Lake, Canada (64.3°N, 96.0°W) August 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	220	3.5			—	E	3.1	3.0
01	230	3.2			—	E	6.0	3.0
02	250	3.0			—	E	4.0	3.0
03	250	3.0			—	—	4.0	3.0
04	250	2.8	—	—	—	—	2.8	3.0
05	260	3.2	220	3.0	100	1.9	4.1	3.0
06	310	3.4	210	3.0	100	2.2	5.2	(2.9)
07	450	3.7	200	3.4	100	2.4	2.9	2.8
08	500	(3.9)	200	3.6	100	2.7	4.0	(2.4)
09	G	< 3.9	200	3.8	100	2.8	3.8	G
10	560	(4.0)	240	3.9	100	3.2	3.7	(2.5)
11	G	(4.0)	200	3.9	100	3.1	3.7	G
12	G	< 4.0	200	3.9	100	3.1		G
13	410	4.1	200	3.9	100	3.1		2.4
14	410	4.3	200	3.8	100	3.0		2.7
15	380	4.6	200	3.8	100	3.0		2.8
16	390	4.4	200	3.8	100	2.9		2.8
17	360	4.4	220	3.7	100	2.7	5.8	2.9
18	350	4.2	220	3.6	100	2.3	4.0	2.9
19	250	4.2	220	3.0	100	2.0	6.0	3.0
20	250	3.8	—	—	120	1.8	6.1	3.0
21	230	3.8	—	—	—	—	6.2	3.0
22	240	3.4			—	—	4.0	3.0
23	230	3.3			—	—	6.0	3.0

Time: 90.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 17

Churchill, Canada (58.8°N, 94.2°W) August 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	3.6			—	—	8.0	(2.9)
01	300	3.2			—	—	8.0	(3.1)
02	300	3.4			—	—	7.0	(3.0)
03	300	3.0	—	—	120	2.6	7.0	(3.0)
04	300	3.0	—	—	110	2.3	6.8	—
05	300	3.4	—	—	100	2.8	4.6	(2.9)
06	300	3.7	300	3.6	100	3.1	4.0	3.0
07	G	< 4.0	240	3.7	110	3.6		G
08	400	4.0	210	3.8	100	3.2		2.6
09	(500)	< 4.0	210	3.9	100	3.1		G
10	620	<4.1	200	< 4.0	100	3.1		G
11	650	4.2	200	4.0	100	3.0		2.4
12	500	4.2	210	4.0	100	3.1		2.4
13	630	4.2	220	4.0	100	3.1		2.4
14	420	4.4	210	4.0	110	3.0		2.7
15	420	4.5	210	4.0	110	3.0		2.7
16	370	4.6	230	3.8	110	2.9		2.8
17	370	4.6	220	3.8	110	2.8		2.8
18	320	4.2	240	3.5	110	2.8		2.9
19	300	4.0	260	—	110	2.8		3.0
20	300	4.0	—	—	110	3.0	7.1	3.0
21	290	3.8			120	2.0	9.0	(3.0)
22	300	3.5			—	—	9.3	(3.0)
23	280	3.3			—	—	> 10.0	(3.0)

Time: 90.0°W.
Sweep: 1.0 Mc to 10.0 Mc in 16 seconds.

Table 18

Fort Chimo, Canada (58.1°N, 68.3°W) August 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	3.0			—	—	6.0	3.0
01	300	2.9			—	—	6.0	(3.0)
02	300	2.8			100	3.0	5.2	(3.0)
03	(290)	(2.8)			100	3.4	4.8	(3.0)
04	—	(3.0)			100	3.3	4.9	—
05	(300)	3.8	—	—	100	3.6	6.2	(3.0)
06	(300)	3.9	—	—	100	3.1	6.0	3.1
07	350	4.1	230	3.7	100	3.0	4.5	3.0
08	390	4.4	210	3.8	100	3.0	4.2	3.0
09	480	4.1	200	4.0	100	3.0	3.5	2.8
10	400	4.3	200	4.0	100	3.0	3.3	2.9
11	420	4.4	200	4.0	100	3.0		2.8
12	400	4.6	200	4.0	100	3.0		2.8
13	400	4.4	200	4.0	100	3.0		2.9
14	410	4.6	200	4.0	100	3.0		2.8
16	380	4.7	210	3.9	100	3.0	3.7	2.9
16	390	4.7	220	3.8	100	2.9	4.2	2.9
17	340	4.6	240	3.6	100	2.9	6.0	3.0
18	300	4.2	—	—	100	2.8	5.0	3.0
19	300	4.0			100	2.6	6.2	3.0
20	250	3.8			—	—	7.5	3.0
21	260	3.3			100	2.1	6.5	3.0
22	280	3.2			—	—	6.6	3.0
23	260	3.0			—	—	7.0	(3.0)

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 19

Prince Rupert, Canada (54.3°N, 130.3°W) August 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	2.2					3.7	—
01	310	2.0					3.8	—
02	300	2.0					3.7	—
03	320	2.0					4.0	—
04	340	2.0			—	—	3.6	—
05	280	2.4			—	—	3.4	—
06	260	2.9	230	3.0	120	1.8	3.2	G
07	G	< 3.3	210	3.3	110	3.2	2.5	G
08	G	< 3.6	210	3.6	110	2.4	3.6	G
09	G	< 3.8	200	3.8	100	2.6	4.8	G
10	G	< 4.0	200	3.9	100	2.8	4.3	G
11	480	4.2	200	4.0	100	3.0	4.0	G
12	440	4.4	200	4.0	100	3.0	4.2	2.8
13	440	4.4	200	4.0	100	3.0	3.6	2.9
14	480	4.3	200	4.0	100	3.0	3.7	2.7
15	490	4.3	210	4.0	100	3.0	3.8	2.5
16	440	4.3	210	3.9	110	2.8		3.0
17	400	4.1	220	3.7	110	2.6		3.0
18	340	4.2	230	3.7	110	2.3	3.2	3.0
19	250	4.1	240	—	120	1.9	2.4	3.2
20	250	4.0			—	1.8	3.0	3.2
21	250	4.0					4.0	3.2
22	260	3.5					3.4	—
23	260	2.8					3.8	—

Time: 120.0°W.
Sweep: 1.0 Mc to 10.0 Mc in 15 seconds.

Table 20

De Bilt, Holland (52.1°N, 5.2°E) August 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	3.0						2.2
01	< 270	2.6					> 2.0	3.1
02	275	2.5						3.1
03	275	2.4						3.1
04	270	2.6					2.2	3.2
05	255	3.3	220	—	—	1.6	> 2.0	3.3
06	310	3.8	210	3.3	105	2.1	2.5	3.2
07	350	4.3	200	3.7	100	2.4	2.8	3.1
08	320	4.4	200	3.8	100	2.6	3.2	3.2
09	330	4.8	200	4.0	100	2.8	3.6	3.2
10	335	4.8	200	4.1	100	2.9	4.2	3.2
11	340	4.8	200	4.2	100	3.0	3.6	3.2
12	350	5.0	200	4.2	100	3.0		3.3
13	340	4.8	200	4.2	100	3.0	3.0	3.2
14	360	4.7	200	4.2	100	3.0		3.2
15	340	4.7	200	4.0	100	2.9		3.2
16	350	4.6	210	3.8	100	2.7	2.9	3.1
17	295	4.8	220	3.6	100	2.3	3.1	3.3
18	280	4.9	220	3.2	—	1.7	3.6	3.2
19	250	5.4					3.0	3.2
20	220	5.4					2.9	3.3
21	220	4.8						3.3
22	225	4.0						3.3
23	230	3.4						3.2

Time: 0.0°.
Sweep: 1.4 Mc to 11.2 Mc in 6 minutes, automatic operation.

Table 21

Winnipeg, Canada (49.9°N, 97.4°W) August 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	2.4					3.2	(3.0)
01	370	2.3					2.8	—
02	370	2.5					3.8	—
03	370	(2.5)					4.0	—
04	360	(2.3)					3.1	—
05	290	2.4	---	---			3.1	(3.0)
06	G	3.1	230	3.1	120	1.8	2.9	(3.0)
07	G	< 3.5	220	3.4	120	2.3		G
08	G	< 3.7	210	3.6	110	2.6		G
09	G	4.0	200	3.8	110	2.8		G
10	480	4.2	200	4.0	110	3.0	4.2	(2.7)
11	460	4.4	200	4.0	110	3.1		2.8
12	450	4.4	200	4.0	110	3.1		2.8
13	490	4.4	200	4.1	110	3.1		2.7
14	480	4.3	210	4.0	110	3.1		2.7
15	430	4.4	210	4.0	110	3.0		2.8
16	410	4.4	210	3.9	110	2.9		2.9
17	370	4.5	210	3.8	110	2.7		2.9
18	330	4.5	220	3.5	120	2.3		3.1
19	270	4.3	240	—	120	2.1		3.2
20	250	4.2					3.0	3.2
21	250	4.2						(3.2)
22	260	3.2						3.2
23	300	2.7					2.8	(2.9)

Time: 90.0°W.
Sweep: 1.0 Mc to 10.0 Mc in 16 seconds.

Table 22

St. John's, Newfoundland (47.6°N, 52.7°W) August 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	320	3.0					2.0	2.9
01	310	2.2						2.9
02	300	2.0					3.0	2.9
03	300	2.0					3.0	3.0
04	280	2.0			—	E	3.0	3.0
05	260	3.3	230	3.3	120	E	1.8	3.4
06	340	3.7	230	3.4	120	2.3	2.7	3.2
07	410	4.2	230	3.7	120	2.6	3.0	2.9
08	380	4.3	210	3.9	120	2.9	3.8	3.2
09	370	4.4	200	4.1	110	3.1	3.7	3.1
10	390	4.4	200	4.1	120	3.2	2.9	2.9
11	430	4.6	200	4.2	120	3.3	3.1	2.8
12	390	4.6	210	4.2	120	3.3	2.7	2.9
13	460	4.5	210	4.2	110	3.2	3.0	2.7
14	400	4.6	210	4.1	110	3.1		2.9
15	350	4.5	220	4.0	110	2.9		2.9
16	350	4.7	230	3.8	120	2.7		3.0
17	330	4.9	240	3.4	120	2.3		3.0
18	270	5.0	240	3.0	130	E	2.9	3.2
19	250	5.2			—	E	3.4	3.2
20	240	4.6					2.6	3.2
21	250	3.3						3.0
22	290	2.6						3.0
23	300	2.4						2.9

Time: 60.0°W.
Sweep: 0.8 Mc to 10.0 Mc in 18 seconds.

Table 23

Schwarzenburg, Switzerland (46.8°N, 7.3°E) August 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	3.4						3.3
01	290	3.2						3.3
02	280	3.0						3.3
03	300	2.8						3.2
04	300	2.8						3.2
05	300	2.7						3.3
06	225	3.4	—	—	100	2.0	3.0	3.6
07	290	4.0	200	3.4	100	2.2	3.6	3.6
08	300	4.2	200	3.6	100	2.5	4.5	3.5
09	300	4.8	200	3.9	100	2.7	4.0	3.4
10	300	4.9	200	4.0	100	2.8	5.0	3.5
11	300	4.8	200	4.0	100	3.0	4.2	3.4
12	330	5.0	200	4.1	100	3.0	4.4	3.2
13	330	5.0	200	4.1	100	3.0	4.8	3.2
14	380	4.8	200	4.1	100	3.0		3.2
15	315	5.0	200	4.0	100	2.9	3.9	3.2
16	310	4.7	200	3.9	100	2.8		3.3
17	300	4.7	200	3.8	100	2.6		3.4
18	300	4.8	200	3.5	100	2.2	4.0	3.4
19	270	5.2	200	3.0	100	2.0	4.1	3.4
20	235	5.7			—	—	3.6	3.5
21	215	5.5					3.5	3.5
22	210	5.0						3.5
23	230	4.0						3.5

Time: 15.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 24

Ottawa, Canada (45.4°N, 75.9°W) August 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	2.5						2.9
01	300	2.0						2.9
02	(310)	1.8						(3.0)
03	(310)	1.7					2.7	—
04	—	—					3.2	—
05	260	2.4			—	—		3.3
06	G	< 3.3	230	3.4	120	2.0		G
07	G	< 3.8	220	3.6	110	2.4		G
08	G	< 3.8	210	3.8	110	2.7		G
09	480	4.2	200	4.0	110	3.0		2.6
10	430	4.5	200	4.0	110	3.1		2.7
11	440	4.7	200	4.1	110	3.2		2.7
12	(500)	4.5	200	4.1	110	3.3		G
13	510	4.6	210	4.1	110	3.2		2.6
14	450	4.6	210	4.0	110	3.2		2.7
15	430	4.6	210	4.0	110	3.0		2.7
16	400	4.7	220	3.9	110	2.9		2.9
17	350	4.8	220	3.8	110	2.6		3.0
18	300	4.8	230	3.4	120	2.1	2.8	3.1
19	260	4.8	—	---			2.0	3.1
20	250	4.8						3.2
21	250	3.8						3.2
22	270	2.9						3.0
23	280	2.6						3.0

Time: 75.0°W.
Sweep: 1.0 Mc to 10.0 Mc in 15 seconds.

Table 25

Baton Rouge, Louisiana (30.5°N, 91.2°W) August 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	3.2					3.2	3.0
01	300	3.2					3.5	3.1
02	300	3.0						3.1
03	300	2.8					2.2	3.1
04	300	2.6						3.1
05	300	2.5						3.1
06	230	3.4	250	—	120	—	2.9	3.1
07	300	4.1	240	3.5	120	2.1	3.7	3.2
08	360	4.7	230	3.8	120	(2.5)	4.1	3.1
09	350	5.0	210	4.0	110	(2.8)	4.0	3.1
10	430	5.1	200	4.1	110	(3.1)	4.0	2.8
11	380	5.1	210	4.2	110	3.1	4.0	3.0
12	420	5.2	220	4.2	110	3.2	4.2	2.7
13	400	5.2	220	4.2	110	3.2	4.2	2.9
14	380	5.2	220	4.2	110	3.2	3.5	3.0
15	380	5.3	230	4.0	110	3.0	3.7	3.0
18	350	5.3	220	3.9	120	2.8	4.2	3.0
17	320	5.4	230	3.6	120	2.4	3.8	3.1
18	280	5.6	240	—	120	(2.1)	3.5	3.2
19	250	5.1					3.1	3.2
20	250	4.8					2.9	3.2
21	270	4.1					3.1	3.1
22	300	3.4					3.0	3.0
23	300	3.2					2.4	3.0

Time: 90.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 26

Leopoldville, Belgian Congo (4.3°S, 15.3°E) August 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M2000)F2
00	220	3.7					2.4	2.2
01	220	3.6					2.8	2.2
02	(240)	(2.9)					3.1	(2.2)
03	—	(2.3)					2.9	(2.4)
04	(250)	2.4					3.0	2.4
05	250	3.3					2.6	2.3
06	250	5.7	240	—	125	2.2	3.3	2.4
07	270	8.6	230	4.0	120	2.8	3.2	2.4
08	280	7.6	225	4.2	120	3.0	4.2	2.3
09	290	8.0	220	4.4	115	3.2	4.4	2.2
10	300	8.6	210	4.4	115	3.3	5.0	2.2
11	300	8.9	200	4.4	115	3.5	5.1	2.1
12	310	8.9	200	4.4	115	3.4	4.3	2.0
13	320	9.9	200	4.2	115	3.2	3.8	2.0
14	300	9.8	200	4.3	120	3.0	4.0	2.0
15	285	9.8	225	4.0	120	2.8	3.5	2.0
18	280	9.5	250	—	120	2.2	3.5	2.2
17	240	9.2					3.2	2.2
18	240	9.0					3.0	2.2
19	220	8.0					2.6	2.4
20	210	6.5					2.4	2.5
21	210	3.9					2.2	2.6
22	215	3.6					2.4	2.2
23	220	3.4					2.4	2.3

Time: 0.0°.
Sweep: 1.0 Mc to 16.0 Mc in 7 seconds.

Table 27

Buenos Aires, Argentina (34.5°S, 58.5°W) August 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	320	2.6						2.8
01	300	2.6						2.8
02	280	2.6						2.9
03	250	2.9						3.3
04	210	2.5						3.4
05	260	1.8						3.2
08	270	2.0						3.1
07	230	4.0	—	—				2.5
08	240	5.0	220	—	—	—	2.8	3.5
09	260	5.3	220	—	120	2.8	3.4	3.4
10	270	5.9	220	—	110	2.9	3.8	3.4
11	270	6.6	200	3.8	110	3.0	3.9	3.4
12	270	6.5	200	4.1	110	3.1	3.9	3.4
13	260	7.2	200	4.1	110	3.1	3.9	3.4
14	250	7.0	200	4.1	110	2.9	3.8	3.4
15	240	6.6	210	3.6	110	2.8	3.3	3.5
16	230	5.6	210	—	—	—	2.7	3.5
17	220	5.1						3.5
18	220	4.8						3.3
19	240	3.6						3.2
20	270	3.6						3.0
21	260	3.1						3.1
22	270	3.0						3.1
23	300	2.7						2.9

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 28

Deception I. (63.0°S, 60.7°W) August 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	310	2.5						(3.0)
01	310	2.6						(3.0)
02	310	2.8						3.0
03	300	2.7						(3.0)
04	300	2.7						(3.1)
05	300	2.8						(3.2)
06	270	2.5						(3.3)
07	250	3.0						(3.4)
08	230	3.3						(3.5)
09								
10	210	4.3					2.5	(3.6)
11	230	4.6					3.0	(3.6)
12								
13	210	5.2					2.0	(3.8)
14	210	4.6					2.5	(3.5)
15	220	4.6					2.0	(3.8)
16	220	4.3						(3.6)
17	220	4.2						(3.5)
18	230	3.6						(3.5)
19	270	3.0						(3.3)
20	300	2.6						(3.2)
21	300	2.6						(3.1)
22	310	2.4						(3.1)
23	310	2.5						(3.1)

Time: 60.0°W.
Sweep: 1.5 Mc to 16.0 Mc in 15 minutes, manual operation.

Table 29

Resolute Bay, Canada (74.7°N, 94.9°W) July 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	3.5	220	2.7	110	1.8		3.0
01	260	3.6	220	2.7	110	1.7		3.0
02	270	3.6	220	2.9	110	1.8		3.1
03	310	3.5	220	3.0	110	1.9		3.0
04	400	3.6	210	3.1	100	2.0		3.0
05	410	3.6	210	3.2	100	2.1		2.7
06	430	3.4	210	3.3	100	2.3		2.8
07	G	< 3.5	200	3.4	100	2.4		G
08	G	< 3.8	210	3.4	100	2.5		G
09	G	3.7	200	3.6	100	2.6		G
10	G	< 3.7	200	3.6	100	2.7		G
11	G	< 3.7	200	3.7	100	2.8		G
12	G	< 3.8	200	3.7	100	2.7		G
13	G	< 4.0	200	3.7	100	2.7		G
14	G	< 3.7	200	3.7	100	2.7		G
15	440	4.2	200	3.7	100	2.6		2.7
16	G	(3.9)	200	3.6	100	2.5		G
17	440	4.0	200	3.5	100	2.5		2.8
18	440	3.8	200	3.4	100	2.3		2.7
19	380	3.9	200	3.3	100	2.2		2.8
20	360	3.8	210	3.3	100	2.1		2.9
21	320	3.8	220	3.1	110	2.0		3.0
22	310	3.8	220	3.0	110	1.9		3.0
23	270	3.8	220	3.2	110	1.8		3.1

Time: 90.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 30

Baker Lake, Canada (64.3°N, 96.0°W) July 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	240	3.4			—	1.2	4.0	3.0
01	240	3.3			—	E	4.4	3.0
02	240	3.2			110	1.5	4.0	3.0
03	250	3.2	—	—	—	1.7	2.0	3.0
04	250	3.3	230	2.8	100	1.8	3.8	2.9
05	400	3.4	220	3.0	100	1.9	3.9	2.7
06	(530)	3.6	200	3.3	100	2.2	2.5	G
07	(480)	3.8	200	3.4	100	2.5	3.9	(2.6)
08	520	4.0	200	3.7	100	2.7	4.3	(2.6)
09	530	< 4.1	210	3.8	100	3.0	5.1	(2.7)
10	G	< 4.0	200	3.9	100	3.0	3.4	G
11	600	< 4.0	220	4.0	100	3.3	3.4	G
12	590	4.1	200	3.9	100	3.1		(2.8)
13	500	4.2	210	3.9	100	3.1		(2.7)
14	440	4.4	200	3.8	100	3.0		2.7
15	390	4.5	200	3.8	100	3.0		2.9
16	400	4.4	200	3.8	100	2.9	6.0	2.8
17	400	4.3	200	3.8	100	2.9	4.0	2.8
18	380	4.2	210	3.5	100	2.6	6.0	2.8
19	320	4.1	200	3.3	100	2.2	6.0	2.9
20	300	4.0	220	3.0	110	2.0	6.0	3.0
21	240	3.7	—	—	110	1.8	6.0	3.0
22	260	3.7			—	1.7	4.0	3.0
23	250	3.6			—	1.6	4.4	3.0

Time: 90.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 31

Fort Chimo, Canada (58.1°N, 68.3°W) July 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	3.0			—	—	6.0	3.0
01	260	3.0			—	—	5.8	3.2
02	290	3.0			100	2.8	6.0	(3.1)
03	300	3.0			100	2.8	5.0	3.0
04	300	3.4			100	3.0	5.6	3.0
05	300	3.8	—	—	100	3.2	5.0	3.2
06	430	< 3.9	220	3.8	100	3.0	5.0	3.0
07	G	< 3.8	210	3.8	100	2.9	4.4	G
08	G	< 4.0	200	3.8	100	3.0	4.2	G
09	G	< 4.0	200	3.9	100	3.0	4.0	G
10	500	4.2	200	4.0	100	3.0		2.6
11	G	< 4.1	200	4.0	100	3.0		G
12	450	4.3	200	4.0	100	3.0		2.8
13	420	4.5	200	4.0	100	3.0		2.8
14	420	4.6	200	4.0	100	3.0		2.8
15	400	4.5	210	3.9	100	3.0		2.8
16	400	4.4	220	3.8	100	3.0	5.0	2.8
17	380	4.3	220	3.7	100	2.8	5.0	3.0
18	340	4.0	220	3.5	100	2.8	4.5	2.9
19	300	3.9	250	—	100	2.5	4.8	3.0
20	260	3.8			100	2.2	7.0	3.0
21	250	3.6			100	2.5	7.0	3.0
22	280	3.2			—	—	7.0	3.0
23	280	3.2			—	—	6.5	3.0

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 32

Prince Rupert, Canada (54.3°N, 130.3°W) July 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	2.0					3.2	
01	320	2.2					3.0	
02	300	2.0					3.7	
03	300	2.0					4.0	
04	290	2.2			—	—	4.0	
05	280	2.8	230	2.8	120	1.7	2.9	G
06	430	3.2	220	3.0	110	2.0	3.1	2.7
07	G	3.5	210	3.4	110	2.2		G
08	G	< 3.8	200	3.6	100	2.5	3.1	G
09	G	< 3.9	200	3.8	100	2.8	4.0	G
10	G	< 4.0	200	3.9	100	2.9	4.4	G
11	G	4.1	200	4.0	100	3.0	4.4	G
12	490	4.3	200	4.0	100	3.0	3.7	G
13	470	4.4	200	4.0	100	3.0	4.7	2.7
14	460	4.4	200	4.0	100	3.1	4.5	2.7
15	G	4.2	200	4.0	100	3.0		G
16	450	4.2	210	4.0	100	2.9	3.2	2.8
17	420	4.2	210	3.8	100	2.7	3.4	2.9
18	390	4.2	220	3.7	110	2.4		3.0
19	340	4.2	230	3.4	110	2.1	3.2	3.0
20	280	4.1	240	—	120	1.8	3.0	3.1
21	250	4.0			—	—	2.5	(3.1)
22	260	3.8			—	—	2.6	—
23	280	3.0			—	—	2.9	

Time: 120.0°W.
Sweep: 1.0 Mc to 10.0 Mc in 15 seconds.

Table 33

Winnipeg, Canada (49.9°N, 97.4°W) July 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	320	2.6					3.8	(3.0)
01	330	2.8					5.0	—
02	330	(2.8)					5.0	—
03	330	2.8					5.0	—
04	320	2.7					4.5	—
05	240	2.9	—	—	—	—	4.0	(3.2)
06	G	< 3.3	220	3.2	120	3.0	3.3	G
07	G	< 3.5	210	3.4	120	2.4		G
08	G	< 3.7	200	3.7	110	2.6		G
09	G	< 3.8	210	3.8	110	2.9		G
10	G	< 4.0	200	3.9	110	3.0		G
11	615	< 4.2	200	4.0	110	3.0		G
12	480	4.2	200	4.0	110	3.1		2.6
13	600	4.2	200	4.0	110	3.1		G
14	465	4.3	200	4.0	110	3.0		2.6
15	430	4.3	200	4.0	110	3.0		2.8
16	400	4.3	210	3.9	110	2.9		2.9
17	370	4.6	210	3.8	110	2.7		3.0
18	340	4.4	220	3.6	120	2.4		3.0
19	300	4.4	230	3.3	130	2.1	2.8	3.0
20	260	4.5	240	—	—	—		3.2
21	250	3.8						3.0
22	270	3.2						(3.0)
23	290	2.8					2.4	(3.0)

Time: 90.0°W.
Sweep: 1.0 Mc to 10.0 Mc in 16 seconds.

Table 34

St. John's, Newfoundland (47.6°N, 52.7°W) July 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	2.7					2.6	2.9
01	290	2.3					3.0	2.9
02	320	2.3					2.7	2.9
03	290	2.1					2.7	2.9
04	260	2.8	—	—			1.9	3.2
05	270	3.2	230	3.0	120	2.0	3.0	3.2
06	360	3.5	220	3.4	120	2.3	3.3	3.0
07	520	< 3.9	220	3.6	120	2.7	4.1	2.6
08	G	< 4.0	210	4.0	110	2.9	4.0	G
09	G	< 4.2	210	4.0	110	3.0	4.5	2.6
10	G	4.2	200	4.2	110	3.2	3.6	G
11	530	4.4	210	4.2	110	3.2	4.4	2.4
12	G	4.2	200	4.2	110	3.2	4.4	G
13	460	4.2	210	4.2	110	3.2	4.4	2.7
14	420	4.5	210	4.1	110	3.2	3.6	2.8
15	410	4.6	220	4.0	110	3.0	3.5	2.8
16	360	4.6	220	3.8	110	2.8	3.7	3.0
17	340	4.8	230	3.6	110	2.4	4.0	3.0
18	300	4.9	240	3.2	120	2.1	4.2	3.1
19	260	5.1			—	—	4.1	3.2
20	250	4.8					3.5	3.2
21	260	4.0					3.2	3.0
22	270	3.4					2.8	3.0
23	280	2.8						3.0

Time: 60.0°W.
Sweep: 0.8 Mc to 10.0 Mc in 18 seconds.

Table 35

Ottawa, Canada (45.4°N, 75.9°W) July 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	2.4					3.0	3.0
01	300	2.4					3.0	3.0
02	300	2.0					3.3	3.0
03	(290)	2.0					3.9	(3.0)
04	300	2.0					2.8	(3.0)
05	270	2.8	230	2.9	120	1.8	2.3	3.2
06	G	< 3.4	220	3.4	110	2.2		G
07	G	< 3.7	220	3.6	110	2.6		G
08	G	< 4.0	210	3.8	110	2.8		G
09	G	< 4.0	210	4.0	110	3.0	3.0	G
10	540	(4.2)	200	4.0	100	3.1	3.7	G
11	G	(4.1)	200	4.1	110	3.2	4.1	G
12	590	(4.3)	200	4.1	110	3.3	4.0	G
13	G	(4.2)	200	4.0	110	3.3	3.2	G
14	560	(4.5)	210	4.0	110	3.2	3.0	G
15	420	4.6	210	4.0	110	3.1		2.7
16	410	4.7	220	3.9	110	2.9	2.8	2.8
17	360	4.8	220	3.8	110	2.7		2.9
18	310	4.8	230	3.5	110	2.3	3.5	3.1
19	270	4.9	230	—	130	1.9	2.5	3.0
20	250	4.8						3.2
21	250	4.1						3.1
22	260	3.3						3.0
23	280	2.7					2.8	3.0

Time: 75.0°W.
Sweep: 1.0 Mc to 10.0 Mc in 15 seconds.

Table 36

Calcutta, India (22.6°N, 88.4°E) July 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	4.7					2.6	2.8
01	270	4.7						
02	(270)	(4.4)					3.1	
03	270	4.1					3.4	3.0
04	255	4.0						
05	250	(4.2)					3.4	
06	240	4.7					2.9	3.0
07	225	5.8				2.4	3.5	
08	240	6.4				2.7	3.8	
09	240	6.5				3.1	4.0	2.8
10	240	7.2				3.3	3.7	
11	250	8.0				3.5		
12	255	9.2				—	3.8	2.8
13	(270)	9.4				—	6.4	
14	270	10.5				—	4.8	
15	270	10.5				3.6		(2.8)
16	270	10.5				—	4.3	
17	270	9.9				—	3.8	
18	240	10.6					4.1	(3.0)
19	240	9.2					3.5	
20	240	8.8					3.6	
21	240	5.8					3.2	3.0
22	240	6.4					2.8	
23	270	5.3						

Time: 90.0°E.
Sweep: 0.5 Mc to 18.0 Mc in 10 minutes, semi-automatic operation.

Table 37

Baguio, P.I. (16.4°N, 120.6°E) July 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	320	3.2					2.8	2.8
01	290	3.4					3.0	(2.9)
02	280	3.1					2.8	(2.9)
03	300	2.0					2.8	(3.0)
04	270	(2.8)						(3.0)
05	250	2.7					3.2	3.2
06	250	4.2			—	—	3.8	3.3
07	250	5.3	220	—	110	2.3	5.5	3.2
08	320	5.4	220	4.0	110	2.8	6.1	3.0
09	370	5.7	210	4.0	110	(3.0)	7.0	2.8
10	420	6.2	200	4.2	110	3.2	7.2	2.6
11	440	6.7	200	4.2	110	3.4	6.4	2.4
12	430	7.4	210	4.2	110	3.4	6.9	2.5
13	440	7.6	200	4.1	110	3.3	6.6	2.5
14	430	7.8	200	4.1	110	3.2	6.4	2.5
15	420	7.9	210	4.0	110	3.0	5.8	2.6
16	380	8.4	220	4.0	110	(2.8)	4.8	2.7
17	320	8.4	220	—	110	2.3	4.4	2.9
18	250	8.8					4.7	3.0
19	240	7.9					4.0	3.1
20	250	6.1					3.0	3.1
21	280	8.0					3.1	2.9
22	300	3.9					1.8	2.8
23	320	3.8					2.3	(2.8)

Time: 120.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 38

Watheroo, W. Australia (30.3°S, 115.9°E) July 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	3.0					2.0	3.1
01	250	3.2					2.0	3.0
02	260	3.2					2.0	3.1
03	250	3.2					2.0	3.1
04	250	3.2					1.9	3.3
05	240	3.0					2.0	3.4
06	240	2.5				—	1.9	3.3
07	240	3.1	—	---		—		3.3
08	240	4.7	220	2.8		2.0	2.9	3.5
09	250	4.9	220	3.5		2.5	3.2	3.5
10	280	5.4	210	3.9		2.7	3.3	3.4
11	280	8.5	220	4.2		2.9	3.4	3.4
12	300	5.6	210	4.2		3.0	3.5	3.3
13	290	5.7	220	4.2		3.0	3.6	3.3
14	300	5.8	200	4.1		2.9	3.6	3.2
15	280	5.6	220	3.9		2.7	3.6	3.2
16	260	5.3	230	3.4		2.4	3.2	3.4
17	240	4.9	240	2.4		2.0	3.1	3.5
18	230	3.8					3.2	3.4
19	220	3.0					2.6	3.3
20	250	2.7					2.1	3.1
21	250	2.8					2.1	3.1
22	250	3.0					2.1	3.1
23	250	3.1					2.1	3.0

Time: 120.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 2 minutes.

Table 39

Point Barrow, Alaska (71.3°N, 156.8°W) June 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	310	3.6	250	---	---	---	6.4	3.1
01	310	3.7	240	---	---	---	5.0	3.1
02	310	3.7	230	---	---	---	5.6	3.1
03	300	3.6	220	3.2	120	---	6.0	3.1
04	360	3.7	230	3.2	110	---	4.4	3.0
05	390	3.8	220	3.4	110	2.0	4.9	2.9
06	440	3.8	230	3.6	100	---	4.7	2.7
07	440	4.1	220	3.7	100	---	5.3	2.8
08	430	4.1	240	3.7	100	---	4.8	2.7
09	410	4.2	220	3.8	100	2.6	4.7	2.8
10	500	4.0	220	3.8	100	2.7	4.8	2.6
11	480	4.1	220	3.8	100	2.8	4.4	2.6
12	480	4.2	210	3.9	100	2.9	3.8	2.6
13	500	4.1	220	3.9	100	2.8	3.5	2.6
14	440	4.2	220	3.8	100	2.8	3.5	2.6
15	450	4.3	210	3.8	100	2.6		2.7
16	410	4.4	220	3.8	100	2.5		2.8
17	390	4.4	220	3.7	100	2.4	2.9	2.9
18	370	4.3	230	3.6	110	2.2		3.0
19	350	4.2	230	3.5	110	2.2	4.0	3.0
20	320	3.9	240	3.3	110	2.0	3.9	3.1
21	330	3.9	250	3.3	110	---	4.4	3.1
22	340	3.7	240	---	---	---	4.5	3.0
23	340	3.8	230	---	---	---	4.9	3.1

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 40

Wakkanai, Japan (45.4°N, 141.7°E) June 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	4.8					3.0	2.8
01	300	4.7					3.3	2.8
02	300	4.7					3.0	(2.8)
03	290	4.6					3.0	2.9
04	280	4.2			---	---	1.6	3.0
05	280	4.8	260	3.3	120	2.0	3.0	3.0
06	340	5.5	260	3.6	120	2.8	3.8	(2.9)
07	330	5.4	250	4.0	120	2.8	5.2	(3.0)
08	340	5.3	---	4.2	120	3.0	5.9	(3.0)
09	350	5.4	230	4.2	110	3.0	6.3	3.0
10	410	5.3	240	4.3	110	3.2	6.3	2.8
11	410	5.3	240	4.3	110	3.2	6.0	2.8
12	410	5.3	250	4.4	110	3.2	6.0	2.7
13	400	5.3	240	4.3	110	3.1	5.5	2.9
14	420	4.9	230	4.3	110	3.0	6.0	2.7
15	460	5.0	240	4.1	110	3.0	5.7	2.6
16	350	5.3	230	3.9	110	2.8	4.6	2.9
17	350	5.4	260	3.7	120	2.5	5.4	2.8
18	330	5.6	270	3.3	120	2.2	5.6	2.8
19	300	5.7			---	---	4.6	3.0
20	300	6.2					3.8	2.9
21	290	5.8					3.8	2.9
22	300	5.3					3.3	2.9
23	300	5.0					3.2	2.8

Time: 135.0°E.
Sweep: 1.0 Mc to 15.5 Mc in 2 minutes.

Table 41

Akita, Japan (39.7°N, 140.1°E) June 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	4.7					5.3	2.8
01	280	4.7					4.3	2.8
02	280	4.5					4.4	3.0
03	270	4.2					3.8	3.0
04	260	4.0			---	---	3.5	3.0
05	260	4.8	250	3.0	120	1.8	3.5	3.1
06	300	4.9	250	3.5	110	2.4	4.3	3.2
07	300	8.2	230	3.8	110	2.7	5.2	3.1
08	320	5.6	240	4.0	110	2.9	6.2	3.2
09	350	5.2	230	4.2	110	3.1	6.6	3.0
10	390	5.3	220	4.3	110	3.2	6.5	2.9
11	360	5.4	210	4.2	110	3.2	6.2	3.0
12	400	5.2	230	4.2	110	3.3	6.2	2.9
13	430	5.0	230	4.2	110	3.2	5.8	2.8
14	370	5.3	240	4.1	110	3.0	5.6	2.9
15	350	5.5	240	4.0	110	2.9	5.5	3.0
16	330	5.7	240	3.9	110	2.7	4.8	3.0
17	310	5.8	240	3.6	110	2.5	4.8	3.0
18	300	5.9	250	3.2	120	2.0	5.0	3.0
19	270	6.6	---	---			5.7	3.1
20	260	6.2					4.4	3.1
21	270	5.6					4.5	2.9
22	280	5.0					4.4	2.8
23	280	4.9					4.2	2.8

Time: 135.0°E.
Sweep: 0.85 Mc to 22.0 Mc in 2 minutes.

Table 42

Tokyo, Japan (35.7°N, 139.5°E) June 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	4.6					4.5	2.9
01	280	5.2					4.8	(2.9)
02	280	4.4					4.5	2.9
03	260	4.4					4.2	3.0
04	270	4.0					4.2	3.0
05	250	4.1	240	---	130	1.7	3.2	3.2
06	300	5.0	240	3.6	120	2.3	4.7	3.2
07	300	5.4	250	3.9	110	2.7	5.0	3.1
08	300	5.9	230	4.0	110	3.0	6.0	3.2
09	320	5.8	240	4.2	110	3.2	7.0	3.1
10	370	5.1	250	4.3	110	3.2	6.5	2.9
11	380	5.5	220	4.4	110	3.2	6.6	2.8
12	410	5.6	240	4.4	110	3.3	6.6	2.8
13	370	5.8	240	4.2	110	3.2	6.8	2.8
14	360	8.0	230	4.2	110	3.2	6.7	2.9
15	340	6.5	250	4.2	110	3.0	6.0	2.9
16	320	6.6	250	3.9	110	2.7	5.0	2.9
17	310	6.5	220	3.7	110	2.4	5.5	3.0
18	300	8.6	240	3.3	120	1.9	5.3	3.0
19	260	7.0					4.8	3.1
20	260	6.3					4.5	3.0
21	300	5.2					4.6	2.9
22	290	4.8					4.5	2.9
23	290	4.8					5.1	2.9

Time: 135.0°E.
Sweep: 1.0 Mc to 17.2 Mc in 2 minutes.

Table 43

Yamagawa, Japan (31.2°N, 130.6°E) June 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	5.2					4.4	3.0
01	280	4.9					4.2	(3.0)
02	260	4.7					4.0	3.1
03	240	4.7					4.0	(3.2)
04	240	3.5					3.0	3.2
05	240	3.9					3.2	3.4
06	230	4.4	200	—	100	1.8	3.6	3.5
07	240	5.4	220	3.7	100	2.4	5.0	3.4
08	250	5.6	210	4.1	100	2.8	5.0	3.4
09	260	5.7	210	4.2	100	3.0	6.0	3.4
10	300	5.7	200	4.3	100	3.2	7.4	3.2
11	330	5.7	220	4.5	100	3.3	6.8	3.1
12	340	5.8	220	4.4	100	3.5	6.8	3.0
13	340	6.0	200	4.4	100	3.3	6.5	3.1
14	310	7.0	200	4.4	100	3.4	6.3	3.1
15	300	7.2	200	4.2	100	3.1	6.2	3.1
16	300	7.4	220	4.1	100	3.0	6.0	3.1
17	290	[illegible]	200	3.9	100	2.7	5.2	3.2
18	260	7.2	200	3.6	100	2.8	5.7	3.4
19	230	5.7	—	—	—	—	4.6	3.4
20	220	6.1					3.8	3.2
21	240	5.5					4.4	3.2
22	260	5.2					4.6	3.1
23	270	5.1					4.2	3.0

Time: 135.0°E.
Sweep: 0.8 Mc to 20.0 Mc in 15 minutes, manual operation.

Table 44

Calcutta, India (22.6°N, 88.[illegible]°E) June 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(255)	(5.1)						(2.8)
01	(270)	(5.2)						
02	(240)	(4.7)						
03	240	4.6						3.0
04	(240)	(4.3)					3.0	
05	(225)	(3.6)						
06	(240)	(4.9)				—	3.0	(3.1)
07	200	5.8				2.4	3.2	
08	240	6.4				2.7	3.1	
09	240	7.1				3.1	3.8	2.9
10	255	7.8				3.3		
11	270	9.4				—		
12	(250)	8.2				—		(2.8)
13	(240)	(10.0)				—		
14	(255)	9.9				—		
15	240	10.2				—		(2.8)
16	240	10.1				—	4.2	
17	240	10.5				—	4.7	
18	(225)	(10.0)				—	(3.4)	(3.0)
19	(225)	(10.1)					(3.0)	
20	(225)	(8.6)					(3.7)	
21	(220)	(7.8)					(3.0)	(3.1)
22	(255)	(6.2)						
23	270	5.3					2.6	

Time: 90.0°E.
Sweep: 0.5 Mc to 18.0 Mc in 10 minutes, semi-automatic operation.

Table 45

Barotonga I. (21.3°S, 159.8°W) June 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	3.2						2.9
01	300	3.1						2.9
02	300	3.0						3.0
03	250	3.1						3.0
04	230	3.0						3.2
05	250	2.7						3.0
06	260	2.6						3.0
07	250	4.2	—	1.8				3.4
08	250	5.8	200	2.9	120	2.2	3.2	3.5
09	260	6.3	200	4.0	110	2.6	3.8	3.4
10	270	6.4	200	4.2	110	2.8	4.0	3.6
11	270	6.3	210	4.3	110	3.1	4.2	3.4
12	270	6.2	210	4.3	110	3.1	4.2	3.4
13	270	6.4	200	4.2	110	3.0	4.2	3.4
14	270	6.8	210	4.2	110	3.0	4.1	3.5
15	270	6.0	200	4.0	110	2.8	4.0	3.3
16	260	6.4	240	3.6	110	2.5	3.6	3.3
17	250	6.1	—	2.2	—	1.9	3.5	3.4
18	230	5.8					3.0	3.3
19	220	4.6					2.9	3.3
20	< 240	3.6					2.6	3.1
21	250	3.2					2.4	3.0
22	250	3.4						3.0
23	280	3.1						3.0

Time: 157.5°W.
Sweep: 2.0 Mc to 16.0 Mc, manual operation.

Table 46

Christchurch, New Zealand (43.6°S, 172.7°E) June 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	2.8					3.0	3.1
01	270	2.7					3.6	3.1
02	280	2.6					2.5	3.0
03	270	2.4					2.6	3.1
04	270	2.4					2.2	3.1
05	270	2.1					2.4	3.2
06	260	2.0					4.0	3.2
07	260	2.3				—	4.3	3.3
08	240	3.5	240	2.3		1.5	4.2	3.6
09	240	4.4	230	3.1		2.1	4.3	3.5
10	250	4.8	220	3.4		2.3	4.3	3.5
11	260	5.0	230	3.7		2.5	4.3	3.4
12	270	5.2	230	3.7		2.6	4.3	3.4
13	270	5.2	230	3.7		2.5	4.3	3.4
14	270	5.2	230	3.6		2.4	4.2	3.4
15	250	5.3	240	3.2		2.1	4.1	3.4
16	230	5.0	240	2.2		1.6	2.0	3.5
17	230	3.8				—	3.3	3.3
18	250	3.1					2.9	3.1
19	270	2.8					2.5	3.1
20	270	2.6					3.5	3.1
21	270	2.8						3.2
22	270	2.6						3.1
23	280	2.6					2.1	3.1

Time: 172.5°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 47

Barotonga I. (21.3°S, 159.8°W) May 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	< 270	3.4						3.0
01	250	3.4						3.0
02	270	3.3						3.0
03	260	3.5						3.1
04	250	3.2						3.2
05	< 260	3.0						3.0
06	260	2.7						2.9
07	250	5.2	210	2.0	120	2.3		3.3
08	250	6.8	220	3.4	110	2.4	3.2	3.4
09	250	7.2	210	4.0	110	2.8	4.0	3.5
10	260	7.8	210	4.2	110	3.0	4.2	3.4
11	260	7.0	210	4.3	110	3.1	4.3	3.4
12	280	6.9	220	4.4	110	3.1	4.4	3.3
13	260	7.4	210	4.3	110	3.1	4.4	3.3
14	270	6.8	210	4.2	110	3.0	4.3	3.3
15	260	6.9	210	4.0	110	2.9	4.2	3.3
16	260	7.2	240	3.8	110	2.5	3.7	3.3
17	250	7.2	—	2.8	—	2.2	3.9	3.4
18	240	6.5			—	—	3.9	3.3
19	240	5.4					3.6	3.3
20	250	4.1					3.0	3.2
21	250	3.7					2.5	3.1
22	260	3.7					2.5	3.0
23	250	3.5						3.0

Time: 157.5°W.
Sweep: 2.0 Mc to 16.0 Mc, manual operation.

Table 48

Christchurch, New Zealand (43.6°S, 172.7°E) May 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	2.7						3.0
01	280	2.7						3.0
02	270	2.7					1.7	3.0
03	280	2.4					3.0	3.0
04	280	2.2					2.1	3.1
05	270	2.0						3.1
06	250	1.9					2.5	3.2
07	250	2.8				—	2.7	3.2
08	240	4.2	240	2.6		1.8	3.7	3.5
09	240	4.7	230	3.2		2.2	4.3	3.5
10	250	4.9	220	3.6		2.4	4.3	3.5
11	260	5.0	230	3.8		2.6	4.3	3.5
12	270	5.1	230	3.8		2.6	4.3	3.4
13	270	5.5	230	3.7		2.6	4.3	3.4
14	270	5.4	240	3.7		2.4	4.3	3.3
15	250	5.2	230	3.3		2.2	4.3	3.5
16	240	4.9	250	2.6		1.8	3.6	3.4
17	240	4.6				—	2.7	3.3
18	240	3.7					2.1	3.1
19	250	3.2						3.1
20	260	3.1						3.1
21	270	2.7						3.1
22	270	2.8						3.0
23	270	2.6					2.2	3.0

Time: 172.5°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Form adopted June 1946

TABLE 49

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

h'F2 (Characteristic), Km (Unit), October (Month), 1953

Observed at Washington, D. C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: McC., E.J.W.

Calculated by: McC., E.J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	(280)S	(260)S	250	220	230	(250)S	240	230	250	290	270	270	300	290	270	270	240	230	230	220	(230)S	(250)S	250	250
2	(250)S	(250)S	240	270	(280)S	(250)S	[250]A	(250)L	260	260	270	300	290	320	280	270	250	230	210	230	240	250	250	260
3	260	(280)S	250	260	(250)S	(250)S	250	230	250H	260	260H	330	290	300	300	260	260	230	220	220	220	(250)S	(260)S	(270)S
4	(270)S	260	240	(230)S	230	220	230	240	250	270	280	280	270	280	300	290	260	250	210	210	230	250	(270)S	260
5	260	260	250	240	230	250	220	230	250	(250)L	290	280	300	290	(280)L	280	260	230	210	220	250	(250)S	(260)S	(260)S
6	(260)S	(260)S	230	240	230	(240)S	230	220	230	260	270	250	270	290	270	260	240	230	200	220	250	260	270	260
7	250	260	250	<300E	<310E	(270)S	260	230	250	300	290	290	280	280	260	270	260	230	220	240	(240)S	(260)S	260	(250)A
8	250	(250)S	270	270	250	220	240	230	250H	250	240	[270]A	300	260	300	270	260	230	230	(270)A	250	270	(260)S	(270)S
9	(280)S	A	A	A	A	(270)S	230	230	250	250	270	280	270	280	270	260	250	240	230	(250)A	A	A	(270)S	(280)S
10	(270)S	(260)S	(270)A	(260)A	(260)A	<270E	(250)S	240	250	260	260H	270	290	290	270	290	250	230	210	240	240	(250)S	A	A
11	(290)S	(280)S	(270)S	(280)S	(250)S	250	(250)S	240	280	270	300	280	300	280	280	270	250	230	220	240	(250)A	(270)A	A	A
12	(310)A	(280)S	270	(260)S	250	(250)S	240	240	(260)L	290	270	300	280	290	290	280	260	240	220	220	240	(270)S	(280)S	[280]A
13	(290)S	(300)A	(280)S	260	240	240	240	230	260	240	250	280	290	300	280	270	240	220	210	210	(240)S	(250)S	(270)S	(270)S
14	270	(290)S	(280)S	270	230	(240)A	210	210	(240)H	250	280	260	270	290	280	260	240	220	200	(210)S	(250)S	(270)S	(270)S	(280)S
15	(260)S	(250)S	250	240	240	<270E	250	230	240	280	(290)LK	300K	400K	300K	260K	250K	250K	230K	(240)SK	270K	(300)SK	(280)SK	240K	(220)SK
16	(280)SK	<330EK	EK	EK	(330)SK	(280)SK	(240)S	260	250	260	(300)L	330	220	280	300	280	260	250	220	240	210	(300)S	(300)S	270
17	(270)A	(280)S	280	(280)S	E	E	(310)S	240	230	260	270H	300	300	260	270	280	250	220	230	230	(260)A	(260)S	(290)S	[300]S
18	(310)S	290	(270)S	(270)S	<320EK	EK	(310)SK	260K	310K	310K	330K	300K	360HK	300K	300K	270K	280K	250K	230K	(260)SK	(290)SK	(300)SK	SK	SK
19	EK	EK	EK	EK	EK	EK	<400EK	380K	GK	GK	GK	GK	590K	410K	450K	300K	250K	230K	230K	240K	280K	EK	EK	EK
20	EK	EK	EK	EK	EK	EK	SK	260K	GK	GK	430K	410K	450K	330K	310K	280K	260K	230K	220K	240K	(270)AK	260K	AK	SK
21	SK	SK	AK	SK	EK	EK	SK	240K	300K	260K	(280)LK	300K	300K	300K	300K	270K	250K	220K	(240)AK	240K	(260)SK	AK	AK	EK
22	AK	EK	<320EK	EK	EK	EK	(310)SK	240K	220K	300K	300K	330K	310K	290K	290K	270K	250	220	230	230	(240)H	(280)S	(280)S	(290)S
23	(290)S	(300)S	250	240	230	S	S	230	250	260	260	260	280	280	250	240	240	220	220	(240)S	(260)S	<310E	<300E	270
24	(270)S	(260)S	(250)S	(260)S	(250)S	<280E	(260)S	220	250	250	260	280	280	250	250	240	220	210	220	(240)S	(230)S	(270)S	(280)S	(280)S
25	(290)S	270	260	240	240	240	(250)S	240	250	260	(270)L	270	260	260	250	240	230	210	210	(240)S	(240)S	(280)A	(260)S	(250)S
26	260	250	250	250	250	(240)S	(240)S	240	240	230	260	250	260	250	250	240	230	210	210	(220)S	250	(290)S	280	290
27	280	250	250	(300)A	(280)A	E	(290)S	240	230	270	250	270	290	260	270	250	(230)A	220	200	(250)S	[270]A	(290)S	<300E	280
28	270	280	250	240	240	(230)S	(260)S	230	240	250	240	260	260	260	260	250	240	220	220	(250)A	[250]A	270	(290)A	(270)S
29	(270)S	(260)S	260	(270)A	(260)A	(260)A	(250)S	230	220	240	240	250	280	250	270	240	240	240	220	220	[240]A	(250)A	240	(270)S
30	(260)S	270	250	270	260	(250)S	(240)S	240	250	(240)L	260H	270	250	250	250	240	230	220	220	250	(250)S	(290)A	(280)S	(290)A
31	(260)A	(270)S	(270)S	270	(260)S	(260)S	(260)S	240	240	270	280	290	270	280	260	250	230	(220)A	A	A	A	(280)S	(300)S	(270)S
Median	(270)	(260)	250	260	(250)	(250)	(250)	240	250	260	270	280	290	280	270	270	250	230	220	240	(250)	(270)	(270)	(270)
Count	28	26	27	26	27	26	27	31	31	31	31	31	31	31	31	31	31	31	30	30	29	27	23	25

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ■

TABLE 50

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

foF2 (Characteristic), Mc (Unit), October (Month), 1953

Observed at Washington, D.C.

Lat. 38.7°N, Long. 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: McC., E.J.W.

Calculated by: McC., E.J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	3.1 F	3.1 F	3.3 F	3.1 FS	2.8	2.5	3.2	4.6 JS	5.2	5.6	6.2	6.6	6.8	6.6	6.4	5.9	5.4	5.1	5.0	5.0	4.2	3.7	3.5	3.3
2	2.9	2.8	2.8	2.7	2.6 JS	(2.4) JS	(3.0) SF	4.7	5.2	5.8	5.8	5.6	5.6	5.8	6.2	5.9	6.0	5.7	5.4	4.8	4.3	3.5	3.5	3.4
3	3.1	3.0	3.1	3.0	3.0	2.7	3.3	4.9	(5.9) H	5.8	5.4 JH	5.6	6.0	6.1	6.2	5.4	5.9	6.0	5.5	4.6	3.8	3.1	3.1	3.0
4	3.0	3.1 JS	3.2 F	3.2 JF	3.0	2.7	3.5	5.3	5.3	5.9	6.2	5.9	6.2	5.7	5.6	5.6	(5.6) S	5.6	(5.4) S	(3.8) JS	(3.4) JS	(3.0) FS	(2.9) JF	(3.1) PF
5	(3.1) JF	(3.0) F	3.2 JF	(3.1) JS	3.3	3.2 F	(3.5) JF	5.4	5.6	5.4	5.6	6.2 JS	6.0	5.8	5.6 H	6.1	6.4	6.0	5.4	3.8 JS	3.5	3.2	3.2	(3.3) JS
6	3.2	3.1	3.0	3.0	2.9	2.6	3.1 F	4.8	5.9	6.1 H	5.8	6.3	6.2	6.0	6.4	6.4	6.0	5.9	5.5	4.2	3.8	3.7	3.8	3.8
7	(3.7) S	3.4	3.0	1.8 F	1.7	2.3 JF	3.5	4.9	5.0	5.6	5.8	6.4	6.7	6.3	7.1	6.8	6.5	6.0	4.7	4.6	4.1 JS	3.7	3.7	3.7
8	3.7	3.4 JS	3.0 FS	3.2 F	3.1 F	3.0 FS	3.2	4.3	5.5 H	6.1	6.0	(5.8) A	6.9	7.1	6.1	6.2	6.6	6.4	6.0	4.9	3.8	3.8	3.3	3.0
9	2.7 JS	(2.5) A	A	A	A	(2.5) H	(2.9) JS	4.9	5.8	5.3	6.2	6.8	6.5	6.9	7.3	6.7	6.0	6.1	5.1	4.2	3.7	(3.3) A	3.2	3.0
10	3.1	2.9	(2.8) A	2.5	2.2	(1.9) A	2.7	4.3	4.7	5.4	5.8 H	6.3	6.2	6.6	6.8	6.8	6.9	6.3	5.0	4.2	3.3	2.7	(2.6) PA	[2.4] A
11	2.3	2.3 F	2.2	2.2	2.4	2.2	2.6	4.3	4.3	5.6	5.5	6.2	6.4	6.8	6.1	6.3	5.9	5.1	4.5	4.3	3.4	2.8	(2.5) A	[2.4] A
12	(2.4) A	2.5	2.5	2.6	2.5	2.4	2.8	4.2	4.8	5.2	5.8	5.7	6.0	6.3	6.0	5.9	5.9	5.7	5.0	4.4	3.1	2.5	2.5	(2.5) A
13	2.5	2.6	2.6	2.7	2.7 F	2.5	2.8	4.6	5.9	6.7	6.0	6.0	5.8	6.1	6.8	6.8	6.7	6.0	5.2	4.1	2.9	2.7	2.8	2.7
14	(2.6) S	2.5	2.6	2.7	(2.6) F	(2.4) JF	(3.0) S	4.8	(5.5) H	6.0	6.0	6.8	6.1	6.0	6.2	6.1	6.4	5.7	4.7	3.8	3.0	2.6	2.7	2.7
15	2.8	2.7	2.6 F	2.5	2.5	(2.4) FS	2.6	4.8	5.0	5.7	5.7 K	7.5 K	7.6 K	9.4 K	8.9 K	6.9 K	6.2 K	K 5.8 JS	5.2 K	4.7 K	3.9 K	4.1 K	K 4.0 JS	K (3.0) JS
16	K (2.1) PS	K (2.0) PS	<1.0 EK	<1.0 EK	K (1.9) PS	K (2.3) PF	(3.1) PF	5.2 S	5.4	5.8	5.1 JS	5.6	6.5	6.8	6.9	(7.2) S	7.4	6.8	6.4	4.6	3.4	2.9	3.2	3.2
17	1.8 JS	2.4 F	2.3	(1.9) F	<1.0 E	<1.0 E	2.3	4.9	5.8	5.6	6.0 H	7.1	8.0	8.2	6.8	7.2	8.2	7.6	6.4	5.4	4.1	3.3	3.0	2.6
18	2.6 JS	(2.5) S	(2.5) F	2.0 JS	K 1.7 JS	<1.0 EK	2.2 K	3.6 K	4.6 K	4.8 K	4.6 K	K 5.6 JS	K 5.0 JH	6.0 K	5.6 K	5.8 K	5.2 K	5.7 K	4.7 K	3.5 K	3.2 K	K 2.7 JS	F AK	F SK
19	F SK	F SK	F SK	<1.0 EK	<1.0 EK	<1.0 EK	K (1.8) PS	2.8 K	<3.4 GK	<3.4 GK	<3.5 GK	<3.7 GK	4.1 K	4.4 K	4.3 K	4.9 K	4.7 K	4.2 K	4.0 K	3.1 K	2.3 K	(1.9) SK	K 1.7 JS	K (1.5) JS
20	<1.0 EK	<1.0 EK	<1.0 EK	K (1.4) JS	<1.0 EK	<1.0 EK	K (1.8) JS	3.1 FK	<3.7 GK	<3.6 GK	4.1 K	4.4 K	4.4 K	5.2 K	5.0 K	5.4 K	5.2 K	4.9 K	4.0 K	3.6 K	2.8 K	2.4 FK	[1.8] AK	[1.7] SK
21	K (1.6) JS	K (1.5) JS	A K	F K	<1.0 EK	<1.0 EK	F K	(3.6) FK	4.2 FK	(5.3) SK	4.7 K	5.2 K	5.3 K	5.2 K	5.5 K	5.9 K	5.6 K	5.2 K	(3.7) SK	2.9 K	2.4 K	[2.2] AK	1.9 K	(1.7) AK
22	[1.6] AK	K 1.6 JS	K (1.5) JS	F SK	F K	<1.0 EK	F K	K (3.6) JF	K 4.1 JF	4.8 FK	4.8 K	5.0 K	5.2 K	5.8 K	5.5 K	5.5 K	5.5	4.6 JS	4.2 S	(3.2) JS	2.6	2.4 S	2.5	2.4 F
23	(2.3) JF	[2.4] F	(2.4) JF	2.4 F	(2.3) JS	(2.2) JS	[2.2] FS	4.1	5.0	5.6	6.0	6.3 V	6.4	6.6	6.2	6.1	5.7	5.0	3.6	2.6	2.3	2.0 F	2.0 F	(2.1) FS
24	(2.1) FS	(2.2) PF	(2.4) PF	(2.5) PF	(2.5) PF	[2.4] F	(2.3) JF	4.1 FS	5.3	5.8	5.6	6.7	7.5	7.5	6.8	6.8	6.2	5.4	4.3	(3.4) FS	2.9 JS	(2.5) PF	2.6 F	(2.7) PF
25	(2.8) F	(2.8) JF	(3.0) PF	3.1 S	2.8	2.3	2.2	4.0	4.8 V	5.2	5.4 H	6.2	6.2 H	5.9	5.8	6.1	5.9	5.0	3.7 FS	(3.1) PS	2.9	2.7	2.6	2.9
26	2.9	2.7	2.9	2.7	2.8	2.7	2.8	4.7	5.0	5.4	5.5	6.2	6.2	6.4	6.6	6.1	6.2	5.4	3.9	3.3	2.7	2.4	2.6	2.7
27	2.8	2.9	2.5	2.2	2.1	(1.9) PS	2.1	4.1	4.8	5.6	6.3	6.4	6.8	7.6	7.0	7.0	6.4	5.7	4.3	3.2	[3.0] A	2.7	2.8 JS	3.0 F
28	(3.3) F	(3.4) S	(3.5) S	(3.2) JS	2.8 F	2.5	2.5	4.5	5.2	6.4	6.0	6.2	6.7	7.0	6.5	6.6	6.4	5.1	4.1	3.7	3.3	2.9	2.7	2.7
29	2.7	2.5 F	2.5 F	2.4 F	2.4 F	2.4	2.4 F	4.1	5.8 S	6.0	6.4	6.5	7.5	7.4	6.2	6.6	6.8	6.5	6.1	5.7	3.7	3.3	2.7	2.2
30	2.4	(2.7) PF	2.6 JF	2.7 F	2.9 F	3.1 FS	2.8 FS	3.7	4.8	4.9	5.6 H	6.3	6.7	6.5	5.8	6.2	6.0	5.0	3.9	3.4	3.0	2.8	2.7 JA	2.8
31	2.9 FA	2.8 FS	(2.6) PF	2.8 F	2.7	2.5	2.3	3.8	4.7	4.9	5.1	5.5	5.8	6.0	5.9	5.6	5.6	5.0	(3.5) A	[3.0] A	(2.5) PA	2.3	2.4	2.4
Median	2.8	2.7	2.6	2.6	2.5	2.4	2.8	4.3	5.0	5.6	5.8	6.2	6.2	6.3	6.2	6.1	6.0	5.7	4.7	3.8	3.3	2.8	2.7	2.7
Count	30	30	28	28	29	31	29	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	30

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

Form adopted June 1946

TABLE 51

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

foF2 (Characteristic) , Mc (Unit) October (Month) , 1953

National Bureau of Standards (Institution)

Observed at Washington, D.C.

Lat 38.7°N , Long 77.1°W

75° W Mean Time

Scaled by: McC, E.J.W.

Calculated by: McC, E.J.W.

Day	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330
1	3.2F	3.3F	3.4	3.2	2.7	2.6	4.2	5.2	5.3	6.6	6.6	6.4	6.5	6.6	6.2	[illegible]	5.4	5.2	4.9	4.5	3.5	3.6	3.4	3.1
2	2.8	2.8	2.7	[illegible]	2.4	(2.5)JS	4.1	5.2	5.5	5.6	5.7	5.6	5.5	6.2	6.1	[illegible]	6.0	5.7	4.7	4.1	3.7	3.5	3.4	3.2
3	2.2	3.1	3.1	2.9T	2.9	(2.4)S	4.2	6.3	5.6	6.2	5.3	5.8H	6.0H	6.1	6.0	5.8	6.1	5.6	5.0	4.0	(5.4)S	2.2	3.0	3.1
4	[illegible]J	2.1F	(3.1)F	2.0F	3.0F	2.5	4.4	5.6	5.1	5.8	6.2	6.3	6.0	5.6	5.8	5.8	5.8	(5.8)S	(5.0)S	(3.5)FS	(3.2)JS	(3.0)JS	(3.0)F	(3.2)PF
5	(3.0)E	3.2F	(3.2)S	[illegible]	[illegible]F	(3.3)S	4.4	5.6	5.7	5.6	5.8	5.8	5.8	6.2	5.8	6.2	6.2	5.8	4.8JS	(3.7)S	(3.4)S	3.2F	3.1F	3.2
6	3.1	3.1	3.1	3.0	[illegible]	2.5	4.3	5.8	6.0	5.8	6.2	6.1	6.4	6.3	6.4	6.4	5.8	6.0	4.7	4.0	3.7	3.7	3.7	3.8JS
7	3.4	[illegible]	2.4	(1.6)S	(1.9)F	2.7	4.5	5.1	5.6	5.4	6.1	6.5	6.6	7.0	6.9	6.5	6.4	5.6	4.5	4.4	3.8	3.7	3.8	3.7JS
8	3.5	3.2	3.0	3.2	(3.2)JS	2.5	3.8	4.9H	5.9	5.9	5.7	6.2	7.2	6.1	6.4	6.2	6.6	6.2	5.4	4.9	3.7	3.5	3.1	2.9
9	2.5	A	A	A	(2.5)H	2.5	4.1	5.2	5.3	5.4	6.2	7.1	6.5	7.1	7.1	6.4	[6.0]C	5.5	4.5	3.9	3.5	3.3	3.2	3.1
10	3.1	2.9	2.1	2.2	2.0	(1.9)A	3.7	4.7	4.9	5.7	6.0	6.0	6.2	6.9	6.9	7.3	6.8	6.2	4.2	3.8	2.8	2.5	[2.4]A	2.4
11	[2.3]A	2.2	2.2	2.3	2.4	2.3	3.7	4.4	5.4	5.4	5.9	6.2	6.9	6.4	6.2	6.2	5.4	5.6	[illegible]	4.0	(3.1)JA	2.6	2.4	[2.4]A
12	2.5	2.5	2.6	2.5	2.5	(2.3)A	3.8	4.7	5.3	5.5	5.7	5.7	6.0	(6.0)JS	6.0	6.2	[6.0]C	5.3	4.7	3.6	2.7	2.5	2.5	(2.4)A
13	[illegible]	2.5	2.7	(2.7)S	2.6	[illegible]F	[illegible]	5.3	6.2	6.4	6.0	5.8	5.6	6.5	[6.7]C	6.7	6.0	5.5	4.4	3.4	2.8	2.7	2.7	2.7
14	[illegible]S	(2.5)A	2.7	(2.6)F	(2.9)S	3.4	(3.7)H	5.3	5.4	5.5	6.7	6.6	6.0	6.1	6.3	6.5	6.3	5.4	4.1	3.2	2.8	2.6	2.7	2.7
15	2.8	2.7	2.5FS	[illegible]	[illegible]	[illegible]JS	2.8JS	4.9	5.4	5.9	5.7HK	7.0K	8.6K	9.4K	7.8K	6.6K	6.1K	5.5K	5.0K	4.2K	4.1K	4.1K	3.2JSK	(2.4)PFK
16	[illegible]	[illegible]	<1.0EK	<1.0E	[illegible]	[illegible]FK	4.9	5.6	5.7	5.5	5.2	5.6	6.8	6.4	7.0	6.9	6.8	7.2	5.6	4.4J	3.2	3.0	3.2	3.1J
17	2.1	2.4F	(2.1)F	(1.9)	<1.0E	<1.0E	[illegible]	5.3	(6.0)JS	5.6	7.2	7.8	8.5	7.6	7.2	7.4	8.0	6.6	5.8JS	4.6	3.6	3.0	2.7JS	2.6
18	2.7	2.5	(3.4)S	1.7	(1.4)SK	<1.0FK	2.8SK	(3.9)FK	[4.7]NK	5.0K	5.4K	5.0K	5.5K	5.6K	5.6K	5.4K	5.8K	5.5K	4.2K	3.2K	2.7K	(2.2)PFK	FK	FK
19	FSK	FSK	<1.0EK	<1.0EK	<1.0EK	<1.0EK	2.4	3.1SK	<3.3GK	<3.4GK	<3.6G	4.1K	4.2K	4.2K	4.7K	4.7K	4.8K	4.2K	[illegible]3K	2.6K	2.0K	1.9K	1.6JSK	<1.0EK
20	<1.0EK	<1.0E	<1.0EK	(1.4)JK	<1.0EK	<1.0EA	2.5FK	3.4K	3.9K	4.0K	4.1K	4.5K	5.0K	5.2K	5.0K	5.3K	5.7K	4.8K	3.7K	(3.2)AK	2.5K	2.0K	(1.7)JSK	(1.7)JSK
21	[illegible]K	AK	AK	FHK	<1.0EK	<1.0EK	2.7S	(4.0)FK	5.2K	4.8K	4.7K	5.3K	5.5K	5.3K	5.7K	5.8K	5.7K	4.3K	(3.2)SK	2.7K	2.2K	AK	AK	1.9JSK
22	[illegible]K	[illegible]	FSK	FK	F	<1.0E	[illegible]K	3.8JSK	4.4K	4.8K	4.7K	5.0K	5.8K	5.4K	5.4K	5.6K	4.8	4.4	(3.8)JS	(3.0)S	2.5	2.5	2.4FS	2.3JF
23	(2.3)	[illegible]	[2.3]F	(2.3)TF	(2.2)	[2.2]FS	3.2	4.5	5.0F	6.2	6.7	5.6F	6.4	6.5	6.4	5.8	5.4	4.5	2.8	[illegible]	2.1JS	1.9F	(2.0)FS	(2.1)FS
24	[illegible]F	[illegible]	(2.4)PF	(2.3)PF	(2.3)	[illegible]F	(3.6)JS	5.0	5.4	5.9	6.3	7.0	7.9	7.0	[illegible]	7.0	5.6	4.7	3.5	3.1FS	2.6FS	(2.3)F	(2.8)PF	(2.7)PF
25	(3.3)F	3.0	(3.2)JS	3.1JS	2.5	2.1	3.1	4.4V	4.4	5.4H	5.6	6.2	5.7	5.8	6.0	6.0	5.6	4.5	(3.7)FS	2.9JS	2.7F	2.5	2.8	2.9
26	[illegible]	2.7	[illegible]	2.8	2.7	2.7	2.6	5.0	5.5	5.5	5.6	6.2	6.5	6.1	6.1	6.4	[5.9]C	4.6	3.7	2.9	2.3	2.5	2.7	2.8JS
27	2.9	2.9	2.3F	[2.1]A	(1.9)PF	(1.8)PF	3.1	5.0	5.4	5.5	[illegible]	6.2	7.5	6.9	6.9	6.7	5.8	5.6	3.4	(2.7)PS	[2.5]A	(2.8)FS	(2.8)S	3.0
28	2.3	3.4A	2.2F	2.8FS	2.7F	2.4	3.5	5.2	5.6	6.6	[illegible]	6.5	7.0	6.7	6.7	6.5	5.8	4.5	3.8	3.5	[3.2]C	2.8	2.8	2.5
29	[illegible]F	2.5G	2.5FS	2.4FS	(2.3)FS	(2.4)PS	3.2	5.3	6.2	6.6	6.3	6.8	7.4	6.4	6.9	6.4	6.4	6.6	5.9	4.3	[3.5]A	3.0	2.4	(2.3)PS
30	[illegible]	2.7F	2.6S	2.9F	2.9F	2.8F	3.3FS	4.6	4.8JF	5.4	6.2	6.6	6.2	6.2	6.2	6.0	5.6	4.7	3.6	3.1	2.7	2.8	2.7	[2.7]A
31	[illegible]A	2.7	2.5FS	2.6	(2.1)PS	2.3	3.6	4.3	4.7	5.0	5.2	5.5	6.1	6.2	5.8	5.8H	5.2	(4.1)PA	3.1JA	3.5	(2.4)A	2.3	2.4	2.3
Median	2.7	[illegible]	2.6	[illegible]	2.0	2.3	3.7	5.0	5.4	5.5	5.9	6.2	6.2	6.2	6.2	6.2	5.8	5.5	4.3	3.5	2.8	2.8	2.7	2.7
Count	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	29	30

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

Form adopted June 1946

TABLE 52

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

h'F1 (Characteristic), Km (Unit), October (Month), 1953

Observed at Washington, D. C.

Lat. 38.7°N, Long. 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: McC., E.J.W.

Calculated by: McC., E.J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								Q	220	210	200	200	190H	200H	210H	200	220	Q						
2								230	230	210	200	200	200	200H	200H	200H	230	Q						
3								Q	210H	200H	200	190H	190	210	200	220	210	Q						
4								220	220	200	200	180	180	200	220	220	230	240						
5								Q	220	210	200	190	200	200	210	220	230	Q						
6								Q	210	200	190	190	200	200	200H	230	200	220						
7								Q	210	200H	220	200	190H	210	200H	220	230	Q						
8								Q	230	(240)A	190H	[190]A	190H	200H	200	230	240	Q						
9								Q	220	210	210	190H	220	200H	200H	240	240	Q						
10								230	210H	210H	[210]A	210	190	190H	230	230	230	Q						
11								230	220	230	220	200	190H	200	210	220	220	Q						
12								Q	(230)A	(230)A	(210)A	190	180	230	220	230	220	Q						
13								220	210H	220	210	190	200	180	250	200H	230	Q						
14								200	200	210	200	200H	220H	200	210	230	240	Q						
15								Q	220	240	210K	210K	200HK	240K	240K	230K	220K	QK						
16								(240)A	230	210	210H	200	200H	210	210H	220	A	Q						
17								230	230	220	200	200	200H	220	210H	220	240	Q						
18								QK	240K	220K	200K	190HK	200K	220K	240HK	230K	230K	QK						
19								QK	240K	200HK	200HK	220K	180K	250K	250K	240K	240K	QK						
20								QK	230K	200K	200K	200HK	180HK	210K	230K	210K	220K	QK						
21								QK	220K	210K	200K	190K	200HK	210K	230K	[220]AK	220K	QK						
22								QK	QK	220K	200K	190K	180HK	210K	210K	220K	230	Q						
23								Q	220	220	200	200	180H	(220)H	220	230	230	Q						
24								Q	200	210	200	210H	200	210H	(220)H	210	Q	Q						
25								220	220H	200	200H	190H	210	210	200	220	220	Q						
26								Q	200	210	180H	190H	220	190H	190H	210	Q	Q						
27								Q	210	200	200H	210	220	220	210	220	G	Q						
28								Q	210	210H	200	200	210	210	210	240	230	Q						
29								220	220	A	A	210	200H	230	210	A	A	Q						
30								Q	220	210	220	190H	210	230	210	210	Q	Q						
31								(220)A	210	190H	190	A	A	A	(250)A	220	220	A						
Median								230	220	210	200	200	200	210	210	220	230	—						
Count								11	30	30	30	30	30	30	31	30	25	2						

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

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Form adopted June 1946

TABLE 53

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

IONOSPHERIC DATA

foFl (Characteristic), Mc (Unit), October (Month), 1953

Observed at Washington, D. C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: McC., E.J.W.

Calculated by: McC., E.J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								Q	L	4.0	4.2	4.2	4.4H	4.2H	4.0H	4.0	L	Q						
2								L	L	(3.9)L	4.1	4.2	4.3	4.3H	4.1H	L	L	Q						
3								Q	L	L	L	4.5	4.2	4.2	4.2	L	L	Q						
4								L	L	4.0	4.2	4.3	4.2	4.2	4.1	L	–	L						
5								Q	L	L	4.2	4.2	4.3	[4.2]L	(4.0)L	L	L	Q						
6								Q	L	(3.7)L	(4.1)P	(4.1)H	4.2	4.2	L	L	L	L						
7								Q	L	4.0H	4.3P	4.3	(4.3)H	4.3	(4.0)L	L	L	Q						
8								Q	L	L	3.7H	[4.0]A	4.3H	4.1H	(4.2)L	L	L	Q						
9								Q	L	L	4.2	4.3H	4.3	(4.2)P	(4.0)H	L	L	Q						
10								L	L	(3.8)H	[4.0]A	4.1	(4.1)P	(4.2)P	4.1	L	L	Q						
11								L	L	3.8	4.1	4.1	4.2H	(4.1)L	4.0	L	L	Q						
12								Q	L	4.0	4.1	4.1	4.1	4.2	4.0	L	L	Q						
13								L	L	L	4.1	4.2	4.3	4.2	4.1	L	L	Q						
14								L	L	3.7	4.1	4.2H	4.3H	(4.1)L	L	–	L	Q						
15								Q	L	(4.0)L	[4.0]LK	(4.1)LK	4.3HK	4.2K	4.1K	LK	LK	QK						
16								L	L	3.7	(4.0)L	4.2	4.2H	4.0	4.0H	3.7	A	Q						
17								L	L	L	3.6	4.1	(4.2)P	4.1	(4.0)H	L	L	Q						
18								QK	3.4K	(3.7)LK	3.7K	4.0HK	4.1K	4.0K	(3.8)PK	(3.6)LK	3.0K	QK						
19								QK	3.4K	(3.4)HK	3.5HK	3.7K	3.7K	3.8K	3.8K	3.6K	LK	QK						
20								QK	3.7K	3.6K	3.8K	3.8HK	3.9HK	3.8K	3.8K	3.4K	LK	QK						
21								QK	LK	3.6K	(3.9)LK	3.9K	4.1HK	4.0K	3.9K	[3.4]LK	3.0K	QK						
22								QK	QK	3.8K	3.8K	4.0K	4.0HK	3.8K	3.8K	LK	L	Q						
23								Q	L	L	(3.8)L	(4.0)L	(4.2)L	(4.1)L	3.9	L	L	Q						
24								Q	L	(3.8)L	(3.8)L	(4.1)L	4.1	4.0H	[3.8]L	3.5	Q	Q						
25								L	L	(3.6)L	(3.6)L	4.1H	3.9	3.9	L	L	L	Q						
26								Q	L	L	(4.0)H	4.0H	4.1	(4.0)L	L	L	Q	Q						
27								Q	L	L	(3.9)P	4.0	4.2	4.1H	3.7	3.3	Q	Q						
28								Q	L	3.5H	(3.9)L	3.9	4.0	L	L	L	L	Q						
29								L	L	A	A	(3.9)P	(4.2)P	(4.0)L	L	L	A	Q						
30								Q	L	L	(3.8)L	[4.0]L	(4.1)L	L	L	L	Q	Q						
31								L	L	(3.5)H	(3.4)A	[3.7]A	4.0	4.0	L	L	L	A						
Median								–	–	3.8	4.0	4.1	4.2	4.1	4.0	3.6	–	–						
Count									3	20	29	31	31	29	23	8	2							

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

Form adopted June 1946

TABLE 54

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

h'E (Characteristic), Km (Unit), October (Month), 1953

Observed at Washington, D. C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: McC., E.J.W.

Calculated by: McC., E.J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								(120)A	100	100	100	100	100	100	100	100	100	(120)S						
2								A	(100)A	100	100	100	100	100	100	100	110	110						
3								100H	100	100	100	100	100	100	100	100	110	100						
4								110	110	100	100	100	100	100	100	100	100	(120)S						
5								110	110	100	100	100	100	100	100	110	110	(120)S						
6								110	110	100	100	100	100	100	100	100	100	100H						
7								110H	110	110	110	110	100	100H	100H	100H	A	S						
8								(120)S	(120)A	110	110	110H	110H	100	100	100	110	A						
9								A	A	(110)A	110	100	100	110	110H	120	110	S						
10								(110)S	A	A	A	A	100	[100]A	110H	110	A	S						
11								(110)S	110H	110H	A	A	A	100	110	(100)A	A	A						
12								A	A	A	A	A	A	100	100	(100)A	100	A						
13								(130)S	110	110	100	100	100	100	100	100	110	(130)S						
14								(120)S	100	100	100	100	100	(110)A	A	A	A	S						
15								(130)S	100H	110	[100]AK	100K	110K	110K	110K	120K	120K	[100]SK						
16								A	A	110	100	100	100	100	(100)A	A	A	100						
17								120	110	100	100	100	100	100	100	100	100	(120)A						
18								AK	110K	110K	110K	110K	100K	100K	100K	110K	110K	SK						
19								SK	110K	110K	100K	100K	100HK	110K	110K	100K	110K	SK						
20								110K	100K	100K	100K	100K	100K	100K	100K	100K	110K	(130)SK						
21								AK	AK	110K	110K	[100]AK	100K	(120)AK	(120)AK	(110)AK	AK	AK						
22								SK	(120)AK	110K	100K	110K	110K	110K	100K	110K	120	A						
23								A	110	110	110H	(100)H	100H	110A	(120)A	(130)A	A	A						
24								S	110H	110H	110	100	100	100H	(120)S	120H	100H	A						
25								S	A	(110)A	110H	(110)S	110H	110	(120)A	(120)A	120	A						
26								(120)S	(120)A	110	100H	110	110	(110)A	(110)A	110	110	A						
27								(120)S	120	110	110	[120]A	(120)A	100	100	100	A	A						
28								S	100	A	A	A	100	100	A	A	A	S						
29								(120)S	[120]A	120	110	(110)A	110H	(110)A	110	110	A	A						
30								S	A	A	A	A	(100)A	100	[100]A	100A	A	S						
31								A	A	(110)A	100	(100)A	(100)A	A	A	100	110	°A						
Median								(120)	110	110	100	100	100	100	100	100	110	(120)						
Count								17	23	27	26	26	29	30	28	28	20	11						

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

TABLE 55

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

foE (Characteristic), Mc (Unit), October (Month), 1953

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: McC., E.J.W.

Calculated by: McC., E.J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								A	(2.5)^{H}	2.7	3.0	3.1	3.1	3.1	3.0	(2.7)^{A}	(2.5)^{S}	2.0						
2								A	(2.5)^{A}	2.8	3.0	3.1	3.1	3.0	2.8	2.7	2.4	1.9						
3								(2.0)^{H}	[2.4]^{A}	2.8	2.9	3.1	3.1	[3.0]^{A}	3.0	2.8	2.4	(1.8)^{A}						
4								2.1^{F}	(2.5)^{A}	[2.8]^{A}	(3.0)^{P}	3.1	3.1	3.1	3.1	2.8	[2.3]^{A}	1.8						
5								A	(2.5)^{S}	2.7	3.1	3.0	3.1	3.0	2.9	2.8	2.4	(1.8)^{A}						
6								2.0	2.5	(2.8)^{A}	2.9	3.0	3.1	(3.1)^{P}	(2.9)^{P}	2.8	[2.3]^{A}	(1.9)^{H}						
7								2.0^{H}	2.4	2.6	2.8	[3.0]^{A}	(3.1)^{P}	3.0^{H}	(2.9)^{H}	(2.6)$^{A}_{P}$	A	A						
8								(1.8)^{P}	(2.3)^{A}	2.6	2.7	2.8^{H}	(3.1)^{H}	3.0	2.9	(2.8)^{A}	2.4	A						
9								A	A	A	A	3.0	3.1	3.1	3.0^{H}	2.7	2.3	S						
10								(1.7)^{S}	2.3^{H}	A	A	A	(3.0)^{P}	[3.0]^{A}	2.9^{H}	2.7^{F}	A	A						
11								(1.7)^{P}	(2.4)^{H}	2.6^{H}	A	A	A	3.0	2.9	A	A	A						
12								A	A	A	A	A	A	A	A	A	A	A						
13								1.9^{H}	A	A	A	A	(3.1)^{P}	3.0	2.9	2.7	2.2	1.9						
14								1.8	(2.4)^{P}	2.8	2.9	(3.1)^{P}	3.1	(2.9)^{P}	A	A	A	S						
15								(1.8)^{S}	2.2^{H}	2.4	[2.6]$^{A}_{K}$	(2.9)$^{H}_{K}$	3.0^{K}	3.0^{K}	(2.9)$^{P}_{K}$	2.8^{K}	2.2^{K}	A^{K}						
16								A	A	(2.6)^{P}	(2.8)^{P}	(2.9)^{P}	(2.9)^{A}	2.9	(2.8)^{P}	A	A	S						
17								1.9	2.4	2.5	(2.7)^{P}	(2.8)^{P}	3.0	3.1	2.7	2.5	2.2	S						
18								(1.9)$^{A}_{K}$	2.3^{K}	2.4^{K}	(2.8)$^{P}_{K}$	(2.8)$^{P}_{K}$	B^{K}	B^{K}	2.7^{K}	2.5^{K}	2.2^{K}	S^{K}						
19								S^{K}	2.2^{K}	(2.4)$^{P}_{K}$	[2.5]$^{B}_{K}$	(2.6)$^{P}_{K}$	(2.8)$^{P}_{K}$	2.7^{K}	2.6^{K}	2.5^{K}	2.1^{K}	1.7^{K}						
20								A^{K}	A^{K}	A^{K}	2.7^{K}	2.8^{K}	2.9^{K}	3.0^{K}	2.9^{K}	2.5^{K}	2.2^{K}	A^{K}						
21								A^{K}	A^{K}	A^{K}	A^{K}	A^{K}	2.9^{K}	2.9^{K}	2.8^{K}	A^{K}	A^{K}	A^{K}						
22								A^{K}	2.3^{K}	2.5^{K}	2.7^{K}	2.9^{K}	A^{K}	A^{K}	A^{K}	A^{K}	2.1	A						
23								A	A	A	(2.6)^{H}	[2.8]^{A}	2.9^{H}	2.7	2.7^{H}	2.5	A	A						
24								(1.8)^{H}	(2.2)^{H}	2.5^{H}	2.8	(2.9)^{B}	3.0	2.9^{H}	2.7	2.5^{H}	(2.3)^{H}	A						
25								(1.7)^{S}	2.0	2.5^{H}	(2.7)^{H}	2.9	3.0^{H}	2.9	(2.8)^{H}	2.5	2.1^{H}	A						
26								(1.8)^{P}	(2.2)^{A}	2.5	2.9^{H}	2.9	3.0	A	A	(2.6)^{P}	A	A						
27								(1.8)^{P}	2.2	(2.5)^{P}	A	A	3.0	3.0	2.8	A	A	A						
28								S	A	A	A	A	(3.0)^{P}	(2.8)^{A}	A	A	A	S						
29								S	A	2.4	2.6	[2.7]^{A}	(2.8)^{A}	[2.7]^{A}	(2.6)^{P}	(2.3)^{A}	A	A						
30								S	A	A	A	A	(2.9)^{P}	2.8	[2.6]^{A}	2.5	A	S						
31								A	A	(2.5)^{A}	2.7	2.8	2.9	A	A	A	(2.3)^{P}	A						
Median								(1.8)	2.4	2.6	2.8	2.9	3.0	3.0	2.9	2.6	2.3	1.8						
Count								16	20	22	22	23	27	26	25	22	18	8						

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

TABLE 56

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

Form adopted June 1946

IONOSPHERIC DATA

Es (Characteristic), Mc, Km (Unit), October (Month), 1953

National Bureau of Standards (Institution)

Observed at Washington, D. C.

Scaled by: McC, E. J. W.

Lat 38.7°N, Long 77.1°W

75° W Mean Time

Calculated by: McC, E. J. W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	4.2Y 110	E	E	E	E	E	30 120	32 120	37 120	38Y 110	38 110	G	G	G	7.0 100	34 100	G	27Y 100	E	E	E	E	E	30 100
2	2.3Y 110	2.4H 110	E	29 100	3.0 100	26 100	45 100	45 100	38 100	G	G	G	G	115 110	G	G	G	3.1 120	30 110	E	30 100	19Y 110	E	E
3	24 100	E	E	E	E	24 100	E	G	32Y 110	G	G	G	G	31 100	G	37Y 100	G	30Y 120	13 110	E	E	E	E	E
4	E	E	E	E	E	E	E	G	33Y 120	4.0 110	37Y 120	G	G	G	G	G	26 110	G	E	E	E	2.5 100	E	42Y 100
5	E	E	E	E	E	E	E	62YH 100	G	G	G	G	G	G	G	G	G	29Y 120	23Y 100	E	E	E	E	E
6	E	E	E	E	E	E	E	G	G	51Y 110	G	G	G	G	G	G	35Y 110	G	E	E	27 100	E	E	E
7	E	E	E	E	E	E	E	G	G	G	G	31 120	G	G	G	27 120	3.2H 100	17 120	24Y 120	3.2H 110	27Y 120	E	E	27 120
8	E	E	E	E	E	23 100	44Y 110	G	37 120	40 130	34 130	90 120	G	G	G	3.9Y 110	G	33 120	32 120	49 110	70Y 110	2.9 110	E	E
9	26 110	3.3 110	6.6 110	5.1 110	49H 100	100YH 110	32Y 110	28Y 110	24Y 110	38 110	40Y 110	G	36Y 120	G	G	G	37 120	2.9Y 120	33H 100	42YH 100	57 120	62 110	25 110	E
10	E	26Y 110	37 100	34 100	26Y 110	30 100	25Y 110	42Y 100	42YH 110	37 110	52 110	43 110	G	4.5YH 110	G	G	2.6 120	1.9H 120	E	E	E	E	38 150	46 120
11	48 110	E	31 110	2.9Y 110	30 110	32Y 110	26YH 110	G	G	3.6 130	32 110	31 100	32 100	G	G	7.0Y 100	23 110	22 110	E	31 110	38 110	68 110	39 110	57 110
12	4.7 100	2.6YH 110	2.2Y 110	24Y 110	31 110	33 100	31 110	35 110	46Y 100	47 110	46 110	56Y 100	40 100	3.7Y 110	4.0 100	37 100	3.3Y 100	44 100	4.5 100	3.3 100	E	E	E	45 110
13	25 100	32 100	32 100	E	25 100	E	E	G	37 120	36Y 120	28 110	3.3 120	G	G	G	G	G	1.8 100	31 100	3.0Y 100	25Y 100	E	E	E
14	4.9 100	23 100	40 100	43 100	36 100	4.3 100	3.9 100	32 100	G	G	G	G	G	40Y 100	3.3 100	28 100	25 100	1.7 130	24 90	25H 90	24Y 90	E	E	E
15	E	3.2Y 100	24 100	E	E	E	2.6Y 100	G	2.5 120	70Y 110	27 100	G	G	G	G	G	G	24 140	E	E	E	E	E	2.4 140
16	E	E	E	E	11.0Y 110	E	39 110	48 110	57Y 110	G	3.2Y 110	G	6.9Y 130	G	3.7Y 100	48 100	4.8 100	22Y 100	E	E	E	E	E	E
17	7.0YH 100	39 100	35H 110	29 100	E	E	E	G	G	G	G	5.0 100	G	G	G	G	22 100	19 140	1.3 120	1.3 120	31 110	E	E	E
18	E	E	E	E	E	E	E	20 100	82Y 120	G	G	G·	-G	G	G	G	G	G	E	E	E	E	39 150	E
19	E	E	E	E	E	E	E	G	G	G	G	G	G	G	G	G	G	G	E	E	E	E	E	E
20	E	E	E	44Y 130	E	E	E	36Y 110	72Y 110	8.2Y 120	G	64Y 110	G	30 120	42 110	G	G	20 130	E	23YH 110	34 110	E	27 110	25 110
21	E	24 130	30 120	26H 100	E	E	E	22 110	34Y 110	67YH 110	27 110	47Y 100	G	66Y 100	37Y 100	48 110	45Y 110	6.6YH 110	70 110	3.0H 110	42Y 110	88 110	38 100	28 110
22	26 100	E	E	E	E	E	E	1.9 120	92YH 110	G	G	G	27 110	38Y 110	2.8 110	2.5 110	28 110	2.0Y 110	1.2 100	E	28 110	32Y 110	22Y 110	E
23	E	E	E	E	E.	32Y 110	E	19 130	24 120	27 110	G	30H 100	7.0Y 120	25 100	23 100	22 100	22 100	2.0 100	E	E	E	E	E	E
24	E	E	E	E	1.6 110	E	72Y 120	G	G	29 130	42Y 100	-G	G	G	G	G	G	24 100	27YH 100	24 100	E	E	E	E
25	E	E	E	23Y 110	E	E	E	G	66 100	26 110	G	G	G	G	21 90	2.0Y 90	25 130	24 120	22H 90	2.1 110	25Y 110	46 100	E	E
26	E	E	E	E	E	E	2.2 100	G	23 120	G	G	G	G	28 110	28 110	G	2.1 120	2.4 100	E	31Y 110	E	E	E	E
27	E	E	E	38Y 100	44H 100	23Y 100	25Y 100	G	G	G	27 100	64Y 100	39 100	32 120	4.2Y 120	2.8 120	66 110	31 110	E	32Y 120	44 120	4.5 120	38 110	E
28	33Y 110	42 100	4.4Y 100	24 100	2.5 100	E	24Y 110	21 100	34Y 110	2.6 100	30 100	27 100	G	29 120	34Y 100	39 100	25 110	31Y 110	27Y 120	7.2 120	64 110	49 110	40 110	33 110
29	26Y 110	E	E	30 100	34 100	36 100	E	G	24 120	45 120	4.3 120	68Y 120	38 120	3.9Y 120	32 120	45 110	43Y 120	2.9Y 110	E	E	4.1 110	2.7Y 110	E	E
30	E	E	E	E	E	42 120	2.9 120	1.8 120	2.6 110	42 110	3.0 110	2.8 100	24 100	G	42 100	23 120	34Y 100	23 100	1.7 100	21 120	19Y 120	45 110	43 110	6.6Y 110
31	42 110	2.1Y 120	E	37Y 120	24 110	44Y 120	4.1Y 120	35 110	66 110	29Y 110	G	43 140	4.8 140	45 100	48H 100	25 110	G	66Y 110	88 110	58 110	62 110	35Y 110	23 100	21H 110
Median	**	**	**	**	**	**	2.2	18	32	29	27	**	**	**	**	22	2.3	24	13	2.1	25	**	**	**
Count	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31

** MEDIAN fEs LESS THAN MEDIAN foE, OR LESS THAN LOWER FREQUENCY LIMIT OF RECORDER.

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

Form adopted June 1946

TABLE 57

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

(M1500)F2 (Characteristic), ____ (Unit), October (Month), 1953

Observed at Washington, D.C.

Lat 38.7° N, Long 77.1° W

75° W Mean Time

National Bureau of Standards (Institution)

Scaled by: McC., E.J.W.

Calculated by: McC., E.J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.0F	2.0F	2.1F	2.3F	2.1	2.1	2.3	(2.5)JS	2.4	2.3	2.3	2.2	2.3	2.3	2.3	2.3	2.4	2.2	2.3	2.3	2.2	2.1	2.1	2.2
2	2.1	2.1	2.1	2.1	(2.1)JS	(2.3)JS	(2.3)SF	2.3	2.0	2.4	2.4	2.3	2.3	2.1	2.3	2.3	1.9	1.9	2.3	2.3	2.3	2.1	2.1	2.2
3	2.0	2.0	2.2	2.1	2.1	2.1	2.2	2.3	(2.4)H	2.5	(2.4)JH	2.2	2.3	2.3	2.2	2.3	2.3	2.4	2.4	2.3	2.2	2.1	2.1	2.0
4	2.1	(2.1)JS	2.2F	(2.3)JF	2.3	2.3	2.3	2.5	2.4	2.4	2.4	2.3	2.4	2.3	2.2	2.3	(2.3)S	2.3	(2.4)S	(2.3)JS	(2.2)JS	(2.1)FS	(2.0)JF	(2.0)PF
5	(2.1)JF	(2.0)F	(2.1)JF	(2.2)JS	2.2	2.2F	(2.3)JF	2.4	2.5	2.4	2.3	(2.3)JS	2.3	2.2	2.1H	2.1	2.3	2.4	2.4	(2.4)JS	2.1	2.1	2.0	(2.1)JS
6	2.2	2.1	2.2	2.2	2.3	2.3	2.3F	2.4	2.6	2.2H	2.4	2.4	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.2	2.1	2.0	2.0	2.0
7	(2.1)S	2.1	2.1	2.1F	1.9	(2.0)JF	2.0	2.4	2.3	2.4	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.4	2.3	2.2	(2.1)JS	1.9	2.0	2.1
8	2.1	(2.1)JS	2.0FS	2.0F	2.1F	2.3FS	2.3	2.4	2.3H	2.4	2.4	A	2.2	2.3	2.2	2.1	2.2	2.3	2.3	2.2	2.0	2.0	2.1	2.1
9	(2.1)JS	(2.1)A	A	A	A	(2.1)H	(2.4)JS	2.4	2.5	2.5	2.3	2.3	2.3	2.2	2.3	2.2	2.3	2.4	2.3	2.1	2.1	(2.0)A	2.1	2.0
10	2.1	2.0	(2.1)A	2.3	2.1	(2.4)A	2.2	2.4	2.4	2.5	2.3H	2.3	2.3	2.2	2.2	2.2	2.3	2.4	2.4	2.3	2.3	2.1	(1.9)PA	A
11	2.0	2.1F	2.2	2.1	2.2	2.3	2.2	2.4	2.3	2.4	2.2	2.3	2.2	2.3	2.2	2.3	2.4	2.4	2.3	2.2	2.3	2.1	A	A
12	(2.0)A	2.0	2.0	2.0	2.2	2.3	2.3	2.4	2.3	2.2	2.4	2.2	2.3	2.3	2.3	2.2	2.2	2.4	2.4	2.3	2.3	2.1	2.0	(2.0)A
13	2.0	2.0	2.1	2.1	2.3F	2.4	2.3	2.4	2.4	2.5	2.4	2.3	2.2	2.3	2.3	2.3	2.4	2.5	2.4	2.3	2.1	2.1	2.1	2.1
14	(2.1)S	2.0	2.0	2.1	(2.2)F	(2.4)JF	(2.4)S	2.4	(2.4)H	2.1	2.3	2.3	2.3	2.2	2.3	2.3	2.4	2.5	2.4	2.3	2.2	2.1	2.0	2.0
15	2.1	2.2	2.3F	2.3	2.4	(2.1)FS	2.3	2.5	2.5	2.3	2.1K	1.9K	1.7K	2.0K	2.2K	2.2K	2.3K	K(2.4)JS	2.0K	1.9K	1.8K	1.9K	K(2.2)JS	K(2.4)JS
16	K(2.1)PS	K(2.0)FS	EK	EK	K(1.9)PS	K(2.2)PF	(2.4)PF	2.3S	2.5	2.4	(2.3)JS	2.1	2.0	2.1	2.1	(2.3)S	2.2	2.0	2.2	2.1	2.1	1.8	1.9	2.1
17	(2.1)JS	2.1F	2.0	(2.0)F	E	E	1.9	2.3	2.4	2.4	2.0H	2.1	2.1	2.2	2.3	2.2	2.2	2.4	2.3	2.2	2.1	2.0	2.0	1.8
18	(1.9)JS	(2.0)S	(2.0)F	(2.1)JS	K(1.9)JS	EK	1.9K	2.2K	2.3K	2.2K	2.2K	K(2.1)JS	K(2.5)JH	2.2K	2.1K	2.3K	2.0K	2.2K	2.1K	1.9K	1.9A	K(1.8)JS	FAK	FSK
19	ESK	ESK	ESK	EK	EK	EK	K(1.9)PS	2.2K	GK	GK	GK	GK	1.6K	2.1K	1.8K	2.3K	2.3A	2.4K	2.3K	2.3A	2.1K	(1.9)SK	K(1.8)JS	K(1.8)JS
20	EK	EK	EK	K(1.6)JS	EK	EK	K(2.1)JS	2.4FK	GK	GK	1.9K	1.9K	1.6K	2.1K	2.2K	2.3K	2.3K	2.4K	2.4K	2.2K	2.2K	2.2FK	AK	SK
21	K(1.9)JS	SK	AK	FK	EK	EK	FK	(2.3)FK	2.3FK	(2.6)SK	2.3K	2.3K	2.3K	2.3K	2.3K	2.4K	2.4K	2.4K	(2.3)SK	2.2K	2.2K	AA	2.0K	AK
22	AK	K(1.9)JS	K(1.9)JS	FSK	FK	EK	FK	K(2.3)JF	K(2.2)JF	2.3FK	2.4K	2.2K	2.2K	2.3A	2.3K	2.4A	2.5	(2.4)JS	2.3S	(2.4)JS	2.2	2.1S	2.1	2.1F
23	(2.0)JF	F	(2.2)JF	2.2F	(2.3)JF	FS	FS	2.4	2.4	2.3	2.3	2.3V	2.3	2.3	2.4	2.4	2.5	2.5	2.4	2.3	2.3	2.1F	2.2F	(2.2)FS
24	(2.2)F	(2.1)PF	(2.1)PF	(2.2)PF	(2.0)PF	F	(2.2)JF	2.5FS	2.5	2.4	2.3	2.2	2.2	2.4	2.4	2.5	2.5	2.5	2.3	(2.2)FS	(2.3)JS	(2.2)PF	2.3F	(2.1)PF
25	(2.1)F	(2.1)JF	(2.0)PF	2.2S	2.3	2.4	2.2	2.6	2.4V	2.4	2.2H	2.3	2.3H	2.4	2.4	2.5	2.5	2.5	2.4FS	(2.3)PS	2.3	2.2	2.1	2.1
26	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.5	2.3	2.6	2.4	2.4	2.4	2.4	2.4	2.4	2.5	2.5	2.4	2.4	2.1	2.0	2.0	2.0
27	2.0	2.1	2.3	2.0	2.0	S	2.0	2.4	2.5	2.4	2.4	2.3	2.2	2.4	2.3	2.3	2.4	2.3	2.4	2.1	A	1.9	(2.0)JS	2.4F
28	(2.1)F	(2.1)S	(2.4)S	(2.3)JS	2.3F	2.3	2.1	2.4	2.4	2.4	2.5	2.4	2.3	2.3	2.3	2.3	2.5	2.5	2.3	2.2	2.2	2.0	2.1	2.1
29	2.0	2.1F	2.1F	2.1F	2.2F	2.3	2.4F	2.4	2.4S	2.4	2.6	2.4	2.3	2.3	2.2	2.4	2.3	2.2	2.1	2.4	2.1	2.2	2.3	2.1
30	2.2	(2.1)PF	(2.1)JF	2.0F	2.2F	2.1FS	2.2FS	2.2	2.4	2.2	2.2H	2.2	2.4	2.4	2.4	2.5	2.5	2.4	2.2	2.2	2.1	2.0	(2.0)JA	2.0
31	2.1FA	2.1FS	(2.0)PF	2.2F	2.1	2.2	2.2	2.3	2.5	2.4	2.3	2.3	2.3	2.3	2.3	2.4	2.5	2.5	(2.3)A	A	(2.0)PA	2.0	2.0	2.1
Median	2.1	2.1	2.1	2.1	2.2	2.3	2.2	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.3	2.2	2.2	2.1	2.0	2.1
Count	28	27	26	26	25	22	28	31	31	31	31	30	31	31	31	31	31	31	31	30	30	30	28	26

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

Form adopted June 1946

TABLE 58

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

(M3000)F2 (Characteristic), ______ (Unit), October (Month), 1953

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: Mc C., E. J. W.

Calculated by: Mc C., E. J. W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	3.0 F	30 F	3.1 F	33 FS	31	3.1	34	(3.5) JS	3.5	33	33	32	33	33	33	33	34	34	33	33	32	31	3.1	32
2	31	31	31	31	(3.1) JS	(33) JS	(34) SF	34	30	35	35	34	33	32	33	33	29	29	3.4	33	33	31	31	3.2
3	30	30	32	3.1	31	31	32	34	(34) H	35	(35) JH	32	34	34	32	3.3	34	3.5	35	33	33	31	31	30
4	31	(31) JS	32 F	(33) JF	33	34	34	36	3.5	35	34	33	35	34	32	33	(33) S	33	(34) S	(34) JS	(32) JS	(31) FS	(3.0) JF	(29) PF
5	(3.1) JF	(2.9) F	(31) JF	(32) JS	32	32 F	(33) JF	35	3.6	34	33	(34) JS	33	32	3.1 H	31	34	35	34	(34) JS	31	31	30	(31) JS
6	32	31	3.2	32	33	33	34 F	35	37	32 H	35	35	34	33	34	34	34	35	35	32	31	30	30	30
7	(3.1) S	31	31	3.1 F	2.8	(30) JF	30	35	34	35	3.2	33	33	32	33	33	34	35	33	32	(31) JS	29	30	31
8	31	(31) JS	30 FS	30 F	3.1 F	33 FS	33	34	34 H	35	35	A	3.2	33	32	32	32	33	33	3.3	30	30	31	31
9	(3.1) JS	(31) A	A	A	A	(31) H	(34) JS	35	36	36	33	33	33	32	3.3	32	34	35	34	31	31	(30) A	31	2.9
10	31	30	(31) A	33	31	(34) A	33	34	35	35	34 H	34	33	33	33	32	33	34	35	33	33	31	(29) PA	A
11	3.0	32 F	32	31	33	33	32	35	33	3.5	33	33	32	33	33	34	34	34	33	32	33	31	A	A
12	(30) A	30	30	30	32	34	34	35	33	33	3.5	33	34	33	33	33	33	34	34	3.4	33	31	3.0	(30) A
13	30	30	31	31	33 F	34	33	35	35	36	35	34	33	33	33	33	35	35	35	34	31	3.1	31	31
14	(31) S	30	3.0	31	(32) F	(35) JF	(35) S	35	(35) H	32	33	33	34	3.2	33	34	35	35	35	34	32	31	30	3.0
15	31	32	33 F	33	34	(31) FS	3.3	36	36	34	3.1 K	28 K	26 K	30 K	33 K	33 K	34 K	K(34) JS	30 K	28 K	27 K	28 K	K(32) JS	K(34) JS
16	K(3.1) PS	K(30) PS	E K	E K	K(28) PS	K(32) PF	(35) PF	34 S	3.6	35	(34) JS	31	30	31	3.1	(33) S	32	30	32	31	31	28	29	31
17	(31) JS	3.1 F	30	(30) F	E	E	29	34	35	34	31 H	31	31	33	33	32	32	35	33	32	31	30	30	27
18	(28) JS	(29) S	(29) F	(31) JS	K(29) JS	E K	28 K	32 K	33 K	32 K	32 K	K(31) JS	K(36) JH	32 K	31 K	33 K	30 K	32 K	30 K	29 K	28 K	K(27) JS	F AK	F SK
19	F SK	F SK	F SK	E K	E K	E K	K(29) PS	32 K	G K	G K	G K	G K	24 K	31 K	27 K	33 K	34 K	35 K	34 K	33 K	31 K	(28) SK	K(28) JS	K(28) JS
20	E K	E K	E K	K(25) JS	E K	E K	K(31) JS	34 FK	G K	G K	28 K	2.9 K	24 K	31 K	33 K	34 K	34 K	35 K	34 K	3.3 K	33 K	33 FK	A K	S K
21	K(29) JS	S K	A K	F K	E K	E K	F K	(33) FK	34 FK	(36) SK	34 K	33 K	33 K	33 K	33 K	35 K	34 K	35 K	(34) SK	32 K	32 K	A K	30 K	A K
22	A K	K(28) JS	K(28) JS	F SK	F K	E K	F K	K(34) JF	K(32) JF	34 FK	35 K	33 K	33 K	34 K	34 K	34 K	36	(35) JS	34 S	(35) JS	32	31 S	32	31 F
23	(30) JF	F	(33) JF	33 F	(34) JF	F S	F S	35	35	33	33	34 V	33	33	35	35	36	36	35	34	34	31 F	32 F	(33) FS
24	(3.3) FS	(31) PF	(32) PF	(32) PF	(30) PF	F	(32) JF	36 FS	36	35	34	33	33	35	34	36	36	36	34	(33) FS	(34) JS	(32) PF	33 F	(31) PF
25	(32) F	(32) JF	(30) PF	32 S	34	34	32	36	35 V	35	32 H	34	33 H	35	35	36	36	36	35 FS	(33) FS	33	32	31	31
26	32	31	31	3.1	31	3.1	33	36	33	37	35	35	34	35	35	34	36	36	34	34	31	30	30	2.9
27	30	32	33	30	30	S	30	35	36	35	35	33	32	35	33	34	35	34	35	31	A	29	(30) JS	35 F
28	(31) F	(3.1) S	(34) S	(34) JS	33 F	34	31	35	35	35	36	34	34	34	34	34	36	36	33	32	32	30	31	31
29	30	3.1 F	31 F	32 F	33 F	33	34 F	35	35 S	35	36	35	33	34	33	34	34	32	31	35	3.1	3.3	33	31
30	33	(3.1) PF	(3.1) JF	30 F	32 F	31 FS	32 FS	33	35	32	3.2 H	32	35	35	34	36	36	35	33	33	3.1	30	(30) JA	30
31	31 FA	31 FS	(30) PF	32 F	3.1	3.2	33	34	36	35	33	33	34	34	34	35	36	35	(33) A	A	(30) PA	3.0	30	32
Median	3.1	3.1	31	31	3.2	3.3	33	35	35	35	34	33	33	33	3.3	33	34	35	34	33	3.2	3.1	30	31
Count	28	27	26	26	25	22	28	31	31	31	31	30	31	31	31	31	31	31	31	30	30	30	28	26

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

TABLE 59

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

(M3000)F1 (Characteristic), ______ (Unit), October (Month), 1953

National Bureau of Standards (Institution)

Observed at Washington, D.C.

Scaled by: McC., E.J.W.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

Calculated by: McC., E.J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								Q	L	3.8	3.7	3.8	3.9H	3.9H	3.8H	3.8	L	Q						
2								L	L	(3.9)L	3.7	3.8	3.8	3.8H	3.7H	L	L	Q						
3								Q	L	L	L	3.8H	3.9	3.7	3.7	L	L	Q						
4								L	L	3.8	3.6	3.7	3.9	3.7	3.7	L	L	L						
5								Q	L	L	3.8	3.7	3.7	L	(3.8)L	L	L	Q						
6								Q	L	(4.0)L	(3.9)P	(3.9)H	3.9	3.7	L	L	L	L						
7								Q	L	3.8H	3.6P	3.7	(3.8)H	3.6	(3.7)L	L	L	Q						
8								Q	L	L	4.0H	A	3.7H	3.6H	(3.6)L	L	L	Q						
9								Q	L	L	3.6	3.6H	3.7	(3.7)P	(3.6)H	L	L	Q						
10								L	L	(3.8)H	A	4.0	(3.8)P	(3.6)P	3.6	L	L	Q						
11								L	L	3.8	3.7	3.7	3.6H	(3.6)L	3.7	L	L	Q						
12								Q	L	3.7	3.7	3.9	3.9	3.6	3.7	L	L	Q						
13								L	L	L	3.9	3.9	3.7	3.7	3.6	L	L	Q						
14								L	L	3.9	3.8	3.7H	3.8H	(3.8)L	L	L	L	Q						
15								Q	L	(3.6)L	LK	(3.8)LK	3.5HK	3.4K	3.6K	LK	LK	QK						
16								LK	LK	3.8K	(3.9)LK	3.7K	3.6HK	3.6K	3.4HK	3.6K	AK	QK						
17								L	L	L	3.9	3.8	(3.4)P	3.7	3.7H	L	L	Q						
18								QK	3.5K	(3.6)LK	3.6K	3.6HK	3.4K	3.4K	(3.4)P	(3.7)LK	3.7K	QK						
19								QK	3.3K	3.7HK	3.9HK	3.2K	3.8K	3.7K	3.5K	3.4K	LK	QK						
20								QK	3.5K	3.9K	3.6K	4.2HK	3.8HK	3.7K	3.7K	3.8K	LK	QK						
21								QK	LK	3.9K	(3.8)LK	3.7K	3.6HK	3.6K	3.6K	LK	4.0K	QK						
22								QK	QK	3.6K	3.9K	3.9K	3.8HK	3.7K	3.7K	LK	L	Q						
23								Q	L	L	(3.9)L	L	(3.5)L	(3.7)L	3.7	L	L	Q						
24								Q	L	(3.9)L	(3.9)L	(3.7)L	3.8	3.8H	L	3.9	Q	Q						
25								L	L	(3.9)L	(3.9)L	3.6H	3.9	4.0	L	L	L	Q						
26								Q	L	L	4.0H	3.9	3.9	(3.7)L	L	L	Q	Q						
27								Q	L	L	(3.7)P	3.7	3.6	3.7H	3.8	3.9	Q	Q						
28								Q	L	3.9H	(3.8)L	3.9	3.9	L	L	L	L	Q						
29								L	L	A	A	(4.0)P	(3.7)P	(3.8)L	L	L	A	Q						
30								Q	L	L	(3.9)L	L	(3.7)L	L	L	L	Q	Q						
31								L	L	(3.9)H	(4.2)A	A	3.8	3.6	L	L	L	A						
Median								-	-	3.8	3.8	3.8	3.8	3.7	3.7	3.8	-	-						
Count									3	20	27	27	31	28	22	7	2							

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

TABLE 60

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

Form adopted June 1946

IONOSPHERIC DATA

(M1500)E, ______ (Characteristic) (Unit) October (Month), 1953

Observed at Washington, D. C.

Lat 38.7°N, Long 77.1°W

75° W Mean Time

National Bureau of Standards (Institution)

Scaled by: Mc C., E. J. W.

Calculated by: Mc C., E. J. W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								A	(4.3)H	4.4	4.4	4.4	4.3	4.2	4.2	(4.3)A	(4.4)S	4.1						
2								A	(4.2)A	4.4	4.3	4.3	4.3	4.3	4.4	4.2	4.2	4.1						
3								(4.3)H	A	4.4	4.3	4.1	4.3	A	4.1	4.4	4.3	(4.4)A						
4								4.2F	(4.3)A	A	(4.3)P	4.3	4.4	4.3	4.0	4.4	A	4.3						
5								A	(4.4)S	4.3	4.3	4.3	4.1	4.2	4.1	4.2	4.2	(4.3)A						
6								4.2	4.3	(4.4)A	4.5	4.5	4.5	(4.2)P	(4.2)P	4.1	A	(4.2)H						
7								4.2H	4.3	4.5	4.5	A	(4.3)P	4.1H	(4.1)H	(4.3)H A	A	A						
8								(4.1)P	(4.5)A	4.4	4.4	4.3H	(4.0)H	4.1	4.2	(4.2)A	4.2	A						
9								A	A	A	A	3.8	3.9	4.1	4.1H	4.2	4.4	S						
10								(4.2)S	4.1H	A	A	A	(4.3)P	A	4.1H	4.3F	A	S						
11								(4.1)P	(4.1)H	4.3H	A	A	A	4.2	4.2	A	A	A						
12								A	A	A	A	A	A	A	A	A	A	A						
13								4.2H	A	A	A	A	(4.3)P	4.4	4.3	4.4	4.5	4.1						
14								4.1	(4.2)P	4.2	4.2	(4.1)P	4.2	(4.4)P	A	A	A	S						
15								(4.2)S	4.4H	4.4	AK	(4.6)K H	4.2K	4.2K	(4.2)K P	4.2K	4.5K	AK						
16								A	A	(4.3)P	(4.4)F	(4.3)P	(4.3)A	4.2	(4.1)P	A	A	S						
17								4.3	4.1	4.3	(4.2)P	(4.2)P	4.1	3.9	4.3	4.2	4.0	S						
18								(3.9)K A	4.3K	4.1K	(4.2)K P	(4.0)K P	BK	BK	4.2H	4.3K	4.4K	SK						
19								SK	4.0K	(4.3)K P	BK	(4.3)K P	(4.1)K P	4.3K	4.2K	4.3K	4.4K	4.0K						
20								AK	AK	AK	4.5K	4.4K	4.5K	4.2K	4.3K	4.3K	4.1K	AK						
21								AK	AK	AK	AK	AK	4.2K	4.3K	4.3K	AK	AK	AK						
22								AK	4.2K	4.5K	4.5K	4.4K	AK	AK	AK	AK	4.1	A						
23								A	A	A	(4.5)H	A	4.1H	4.3	4.1H	4.1	A	A						
24								(4.4)H	(4.2)H	4.3H	4.1	(4.1)B	4.1	4.1H	4.2	4.2H	(4.0)H	A						
25								S	4.4	4.0H	(4.2)H	4.1	4.0H	4.1	(4.1)H	4.3	4.1H	A						
26								(4.4)P	(4.3)A	4.3	4.0H	4.3	4.2	A	A	(4.3)P	A	A						
27								(4.3)P	4.3	(4.2)P	A	A	4.1	4.0	4.1	A	A	A						
28								S	A	A	A	A	(4.3)P	(4.3)A	A	A	A	S						
29								S	A	4.3	4.3	A	(4.4)A	A	(4.4)P	(4.5)A	A	A						
30								S	A	A	A	A	(4.2)P	4.1	A	4.0	A	S						
31								A	A	(4.2)A	4.4	4.2	4.0	A	A	A	(4.4)P	A						
Median								(4.2)	4.3	4.3	4.3	4.3	4.2	4.2	4.2	4.5	4.2	4.2						
Count								15	19	21	20	20	27	23	24	22	16	3						

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

Table 61

Ionospheric Storminess at Washington, D. C.

October 1953

Day	Ionospheric character* 00-12 GCT	Ionospheric character* 12-24 GCT	Principal storms Beginning GCT	Principal storms End GCT	Geomagnetic character** 00-12 GCT	Geomagnetic character** 12-24 GCT
1	1	1			2	2
2	1	2			2	1
3	1	2			2	2
4	1	2			1	2
5	1	2			2	1
6	0	2			1	1
7	1	1			3	2
8	[illegible]	1			2	3
9	2	0			3	2
10	1	1			2	2
11	2	1			1	2
12	2	2			1	1
13	2	2			1	1
14	2	2			1	1
15	1	4	1500	----	1	5
16	4	3	----	1100	4	4
17	3	3			4	4
18	3	4	0900	----	4	5
19	7	6	----	----	6	4
20	7	5	----	----	4	4
21	5	4	----	----	4	2
22	5	4	----	2100	3	3
23	2	1			3	2
24	2	1			1	2
25	1	2			3	2
26	0	2			2	1
27	1	1			4	2
28	1	1			2	2
29	1	1			2	3
30	1	2			2	1
31	2	3			3	1

*Ionosphere character figure (I-figure) for ionospheric storminess at Washington, D. C., during 12-hour period, on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

**Average for 12 hours of Cheltenham, Maryland, geomagnetic K-figures on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

----Dashes indicate continuing storm.

Table 62

Zürich Provisional Relative Sunspot Numbers

October 1953

Date	R_Z*	Date	R_Z*
1	0	17	9
2	0	18	0
3	7	19	0
4	7	20	0
5	0	21	7
6	13	22	0
7	13	23	0
8	14	24	7
9	11	25	7
10	10	26	2
11	9	27	7
12	9	28	7
13	8	29	0
14	29	30	0
15	22	31	8
16	13	Mean:	7.4

*Dependent on observations at Zürich Observatory and its stations at Locarno and Arosa.

Table 33a

Radio Propagation Quality Figures
(Including Comparisons with Short-Term and Advance Forecasts)

September 1953

Day	North Atlantic 6-hourly quality figures				Short-term forecasts issued about one hour in advance of:				Whole day quality index	Advance forecasts (J-reports) for whole day; issued in advance by:			Geomag-netic K_{Ch}	
	00 to 06	06 to 12	12 to 18	18 to 24	00	06	12	18		1-4 days	4-7 days	8-25 days	Half day (1)	(2)
1	5	(4)	5	6	(4)	(4)	5	5	5	6	7		3	3
2	5	(3)	6	5	5	(4)	5	5	(4)	5	7		(4)	2
3	(3)	(4)	6	5	(4)	(2)	6	6	(4)	5	7		2	(4)
4	(2)	(2)	(4)	(4)	(3)	(2)	(4)	5	(3)	6	7		(6)	(4)
5	(2)	(2)	6	6	(2)	(2)	(4)	(4)	(3)	(3)	6		(4)	3
6	(4)	(4)	6	6	(3)	(3)	5	6	5	(3)	(4)	X	3	2
7	5	(4)	7	6	5	(4)	6	7	6	(4)	(4)	X	3	3
8	5	(4)	6	6	6	(4)	7	7	5	(4)	(4)	X	3	1
9	5	(4)	7	7	5	(4)	6	7	6	5	5	X	3	1
10	6	6	7	6	5	5	7	7	6	6	6		2	2
11	6	5	7	7	5	(4)	6	7	6	6	6		3	2
12	6	5	7	7	6	5	7	7	6	7	7		2	3
13	7	5	7	7	6	5	6	7	7	7	7		3	2
14	7	6	7	7	5	5	7	7	7	7	7		1	1
15	7	6	7	7	7	6	7	7	7	7	7		2	(4)
16	6	5	7	7	(4)	(4)	6	7	6	7	7		3	3
17	5	5	7	6	7	5	6	7	6	7	7		3	2
18	6	5	7	7	6	5	6	6	6	6	6		3	3
19	(3)	(2)	(4)	(3)	5	(2)	(4)	(4)	(3)	5	5		(6)	(4)
20	(2)	(2)	5	5	(3)	(2)	(3)	(4)	(3)	(3)	(3)	X	(5)	(4)
21	(4)	(2)	6	5	(3)	(2)	(4)	5	(4)	(3)	(3)	X	(4)	(4)
22	(4)	(3)	6	5	5	(2)	(4)	5	(4)	(4)	(4)	X	(5)	3
23	(3)	(2)	5	5	(3)	(2)	(4)	(4)	(3)	(4)	(4)	X	(5)	(4)
24	(3)	(3)	5	6	(3)	(3)	5	5	(4)	(4)	(4)	X	(5)	3
25	(4)	5	6	6	(4)	(4)	6	6	5	(4)	(4)	X	3	2
26	6	5	6	6	5	(4)	6	6	6	(4)	(4)	X	2	2
27	5	(4)	6	6	5	(4)	5	5	5	5	(4)	X	(4)	1
28	(3)	(4)	7	6	(4)	(4)	6	6	5	5	5		3	1
29	5	6	7	7	5	5	6	7	6	5	5		1	1
30	5	5	7	6	5	5	7	7	6	6	5		2	2

Score:		00	06	12	18	1-4 days	4-7 days
Quiet periods	P	9	6	10	15	9	7
	S	6	7	14	12	8	10
	U	2	0	1	0	1	1
	F	1	0	3	1	2	2
Disturbed periods	P	4	13	2	0	4	3
	S	7	3	0	2	4	2
	U	1	1	0	0	1	1
	F	0	0	0	0	1	4

Scales:

Q-scale of Radio Propagation Quality
- (1) - useless
- (2) - very poor
- (3) - poor
- (4) - poor to fair
- 5 - fair
- 6 - fair to good
- 7 - good
- 8 - very good
- 9 - excellent

K-scale of Geomagnetic Activity
0 to 9, 9 representing the greatest disturbance; $K_{Ch} \geqslant 4$ indicates significant disturbance, enclosed in ( ) for emphasis

Scoring: (beginning October 1952)
- P - Perfect: forecast quality equal to observed
- S - Satisfactory: (beginning October 1952) forecast quality one grade different from observed
- U - Unsatisfactory: forecast quality two or more grades different from observed when both forecast and observed were $\geqslant 5$, or both $\leqslant 5$
- F - Failure: other times when forecast quality two or more grades different from observed

Symbols:
X - probable disturbed date

Note: All times are UT (Universal Time or GCT)

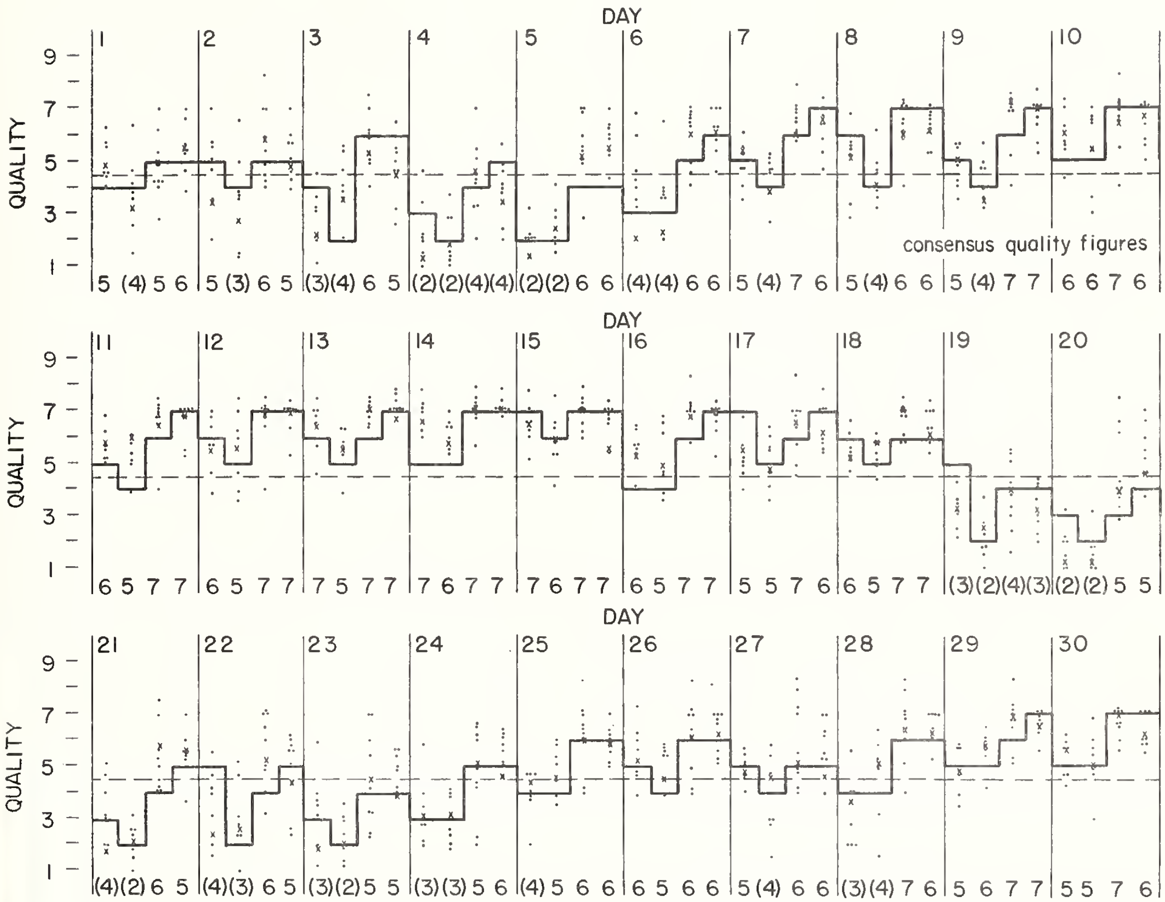
Table 63b

Short-Term Forecasts---September 1953

— forecast

x CRPL observation (not in consensus)

• individual reports of quality (adjusted to CRPL scale)



Outcome of Advance Forecasts (1 to 4 days ahead) --- September 1953

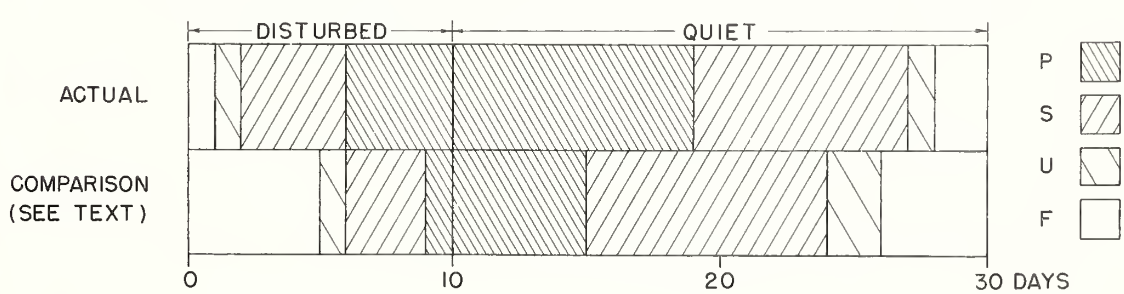


Table 64a

Coronal observations at Climax, Colorado (5303A), east limb

Date	Degrees north of the solar equator																		0°	Degrees south of the solar equator																	
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1953																																					
Oct 4.6	-	-	-	-	-	-	-	3	2	1	2	1	2	1	3	5	5	3	3	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.7	-	-	-	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	1	2	1	1	1	1	2	1	1	1	-	-	-	-	-	-	-	-	-
7.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	2	1	1	6	8	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	3	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.6	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.8	X	-	-	-	-	-	-	-	-	-	-	3	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	X	X	X	X	X
18.6	-	-	-	-	-	-	-	3	2	1	1	1	1	2	4	3	3	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20.8	-	-	-	-	-	-	-	2	4	3	2	2	3	3	6	13	8	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22.8	-	-	-	-	-	-	1	2	3	2	1	1	1	4	5	4	2	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
23.8	-	-	-	-	-	-	-	-	-	-	-	-	1	2	2	1	2	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26.7a	-	-	-	-	-	-	-	-	3	4	3	2	2	2	3	4	1	1	1	2	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.7	-	-	-	-	-	-	-	3	3	3	3	2	2	1	2	2	1	1	1	1	3	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.6	-	-	-	-	-	-	-	3	3	2	2	1	3	3	2	1	1	1	1	1	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30.7	-	-	-	-	-	1	2	3	2	1	1	2	2	3	3	3	1	1	5	6	5	2	1	1	1	1	2	2	1	-	-	-	-	-	-	-	-
31.6	-	-	-	-	-	-	2	3	3	2	1	1	1	3	2	2	1	1	2	8	8	6	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 65a

Coronal observations at Climax, Colorado (6374A), east limb

Date	Degrees north of the solar equator																		0°	Degrees south of the solar equator																	
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1953																																					
Oct 4.6	2	3	1	1	1	1	-	-	-	1	2	2	3	4	4	5	6	5	2	2	4	5	4	4	3	2	1	2	1	1	1	1	2	2	1	1	1
5.6a	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	2	2	2	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1
6.7	1	1	1	1	1	1	1	1	1	2	3	4	5	3	3	1	2	2	3	4	5	5	5	5	5	5	1	1	1	1	1	1	1	2	1	1	1
7.7a	1	1	-	-	-	-	-	-	-	-	1	2	1	1	1	1	1	2	1	1	1	1	2	1	1	1	1	1	1	-	-	-	-	-	-	-	-
8.7	1	1	1	-	-	-	-	-	-	1	2	2	2	1	1	1	1	1	1	3	4	1	1	1	1	2	1	-	-	-	-	-	-	-	-	-	-
9.7	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	2	2	2	5	11	3	4	2	2	2	2	1	1	1	1	1	1	1	1	1	2
10.6	1	1	-	-	-	1	-	-	-	-	3	2	-	-	-	2	2	2	2	3	3	5	4	1	2	2	2	2	-	-	-	-	-	-	1	1	1
11.7a	1	1	1	-	-	-	-	-	-	-	-	1	1	1	2	3	3	3	3	2	2	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15.7	1	1	1	1	1	1	1	1	1	1	1	1	2	2	3	5	5	5	5	4	4	4	4	3	3	2	5	-	-	-	-	-	-	1	2	2	3
16.6	-	1	2	1	-	-	-	-	-	-	1	1	2	2	4	2	4	4	5	5	5	4	2	3	2	3	3	2	1	1	1	1	1	1	2	2	2
17.8	X	-	-	-	-	-	-	-	-	-	-	-	2	-	1	5	6	4	4	4	4	4	3	2	2	2	1	X	X	X	X	X	X	X	X	X	X
18.6	-	1	2	-	-	-	-	-	1	1	1	1	1	1	1	1	3	4	2	2	5	4	3	2	3	3	3	2	1	1	1	1	1	1	2	2	2
20.8	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	10	3	4	5	6	6	9	9	6	3	4	5	4	3	2	2	2	2	2	2	2	2
22.8	1	2	1	-	-	-	-	-	-	-	-	1	1	1	1	1	2	2	3	3	3	4	4	5	5	5	1	1	1	1	1	1	1	1	1	1	1
23.8	2	2	1	-	-	-	-	-	-	1	1	1	1	1	2	2	2	2	3	4	3	3	3	3	3	3	3	2	2	-	-	-	-	-	-	-	-
24.7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	3	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	1	2	2
25.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-
26.7a	1	1	1	2	1	1	1	1	1	1	2	3	2	2	2	2	2	2	3	4	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	-	-
27.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	3	3	3	1	2	2	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1
28.7	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	5	4	3	4	2	2	2	2	2	2	2	2	2	1	1	3	1	1
29.6	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	3	4	3	3	5	4	2	1	1	1	1	1	1	1	2	2	1	1	1
30.7	2	1	1	1	1	1	1	1	1	1	1	1	2	4	4	3	3	3	3	5	5	3	3	3	3	2	2	1	1	1	1	1	1	2	2	2	2
31.6	-	-	1	1	1	1	1	1	1	1	1	2	2	3	3	2	2	3	3	3	5	6	3	3	3	3	2	2	2	2	2	2	2	2	3	3	2

Table 64b

Coronal observations at Climax, Colorado (5303A), west limb

Date	Degrees south of the solar equator																		0°	Degrees north of the solar equator																	
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1953																																					
Oct 4.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-
5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	5	6	3	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-
6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	2	4	9	15	16	3	3	1	1	1	-	-	-	-	-	-	-	-	-	-
7.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	5	12	17	3	3	2	2	1	-	-	-	-	-	-	-	-	-	-
8.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	7	6	2	2	2	1	-	-	-	-	-	-	-	-	-	-
*9.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	4	4	1	1	1	1	-	-	-	-	-	-	-	-	-
10.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
11.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	-	1	2	2	1	1	2	10	2	-	-	5	4	1	1	1	-	-	-	-	-	-	-	-	-	-	-
16.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	2	2	2	4	6	4	4	2	2	1	1	1	-	-	-	-	-	-	-	-
17.8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
18.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	6	3	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	-	-	-	-	-	-	X	X	X	-	-	-	-	-	-	-	-	-
22.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.8a	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-
24.7	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	-	-	-
25.7	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-
26.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
27.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-

* Trace of yellow line 5694A at 30°N.

Table 65b

Coronal observations at Climax, Colorado (6374A), west limb

Date	Degrees south of the solar equator																		0°	Degrees north of the solar equator																	
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1953																																					
Oct 4.6	1	1	1	1	1	-	-	-	1	1	1	2	2	3	3	5	6	5	5	6	6	4	2	1	1	1	-	-	-	-	1	1	1	1	1	1	2
5.6	1	1	2	1	1	1	1	1	2	2	3	4	4	5	4	5	5	4	5	3	12	3	1	-	-	-	-	-	-	-	1	1	1	1	1	1	1
6.7	1	1	1	1	1	1	1	1	1	1	1	3	3	6	10	12	4	4	3	2	14	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1
7.7	-	-	-	-	-	-	-	-	-	-	-	-	1	2	3	4	3	2	1	1	1	7	1	-	-	-	-	-	-	-	-	-	-	-	-	2	1
8.7	-	-	-	-	-	-	-	1	1	1	1	1	1	1	2	3	3	3	3	1	1	4	1	1	-	-	-	-	-	-	-	-	-	-	-	1	1
9.7	2	1	1	1	-	-	1	1	1	1	1	1	1	1	2	2	2	3	3	4	2	2	3	2	1	2	1	1	1	1	1	1	1	1	1	1	1
10.6	1	2	2	1	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	1	1
11.7a	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15.7	3	3	2	2	2	2	1	1	1	1	2	2	2	2	3	5	9	17	4	2	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16.6	2	2	1	1	1	1	1	1	1	1	1	1	2	5	5	12	12	12	5	2	2	2	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-
17.8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
18.6	1	1	1	1	-	-	2	1	1	1	1	1	1	1	1	1	3	5	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20.8	2	1	1	1	1	1	1	1	1	1	1	1	4	3	1	1	2	3	2	3	3	3	2	2	2	2	X	X	-	-	-	-	-	-	-	-	2
22.8a	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	3	3	2	3	2	3	3	3	3	-	-	-	-	-	-	-	-	-	-	1
23.8a	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	-	-	-	-	2
24.7	2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	2	2	1	1	1	1	1	1	1	1
25.7	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-
26.7a	-	-	-	-	-	-	-	3	3	3	2	2	2	3	2	2	2	2	3	2	2	4	2	1	-	-	-	-	-	-	1	1	1	1	1	1	1
27.8a	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	2	2	2	2	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
28.7	1	1	1	1	1	1	1	1	1	1	2	2	3	3	2	2	3	4	4	5	4	3	3	3	2	2	2	2	2	2	2	2	2	1	1	1	1
29.6	1	1	1	1	1	1	1	1	1	1	4	5	4	4	5	5	5	6	4	5	5	5	4	4	-	-	-	-	-	1	1	1	2	1	1	1	1
30.7	2	2	1	1	1	1	1	1	2	2	3	3	4	4	5	6	5	5	6	6	5	3	3	3	2	1	1	1	1	1	1	1	1	1	1	2	2
31.6	2	1	1	1	1	1	1	2	2	3	4	3	3	4	5	4	4	4	4	4	5	3	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-

Table 66a

Coronal observations at Climax, Colorado (6702A), east limb

Date	Degrees north of the solar equator																		0°	Degrees south of the solar equator																	
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1953																																					
Oct 4.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.8	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	X	X	X	X	X
18.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	3	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 67a

Coronal observations at Sacramento Peak, New Mexico (5303A), east limb

Date	Degrees north of the solar equator																		0°	Degrees south of the solar equator																	
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1953																																					
Oct 1.7	-	2	2	-	2	2	3	4	5	6	5	4	4	4	5	7	6	5	4	4	4	5	4	3	3	2	2	2	-	-	-	-	-	-	-	-	-
2.7	-	-	-	3	2	2	3	5	6	5	4	3	4	4	5	12	13	14	7	7	5	4	3	3	3	2	-	-	2	2	-	-	-	-	-	-	-
3.7	-	-	-	-	-	2	2	2	3	3	3	3	2	4	5	7	8	6	3	3	3	3	4	2	3	2	2	3	-	-	-	-	-	-	-	-	-
4.7a	-	-	-	-	-	2	2	2	2	2	3	3	2	2	3	4	5	4	3	3	2	3	3	2	2	3	3	3	2	3	2	-	-	-	-	-	-
5.7a	-	-	-	-	-	2	2	2	2	3	3	3	3	4	3	3	3	2	3	3	3	2	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
6.7a	-	-	-	-	-	-	-	2	2	2	3	4	3	3	2	2	2	3	3	3	4	4	3	2	3	4	4	3	-	-	-	-	-	-	-	-	-
7.7	-	-	-	-	-	-	2	3	3	2	3	3	2	-	2	3	3	2	3	3	4	6	8	4	2	2	2	2	-	-	-	-	-	-	-	-	-
8.7a	-	3	2	3	3	3	3	2	2	2	3	3	2	3	3	3	4	4	4	3	4	7	5	3	2	2	3	2	-	-	-	-	-	-	-	-	-
9.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	4	3	3	4	3	5	4	4	3	2	-	-	3	2	3	-	-	-	-	-	-
10.7	-	-	-	-	-	-	2	2	2	2	3	3	3	2	3	4	5	6	4	3	3	2	4	3	3	3	2	2	2	3	3	2	-	-	-	-	-
11.7a	-	-	-	-	-	-	2	2	3	3	2	2	3	3	2	2	2	5	8	3	3	3	4	3	2	2	2	2	3	2	2	2	-	-	-	-	-
12.8	-	-	-	-	-	-	2	2	2	2	3	3	3	2	3	3	4	5	7	4	3	2	2	2	3	2	2	2	2	3	3	X	X	X	X	X	X
13.7a	-	-	-	-	-	3	3	2	3	3	4	3	5	3	3	3	3	3	4	4	5	5	4	3	4	4	3	3	3	2	3	3	-	-	-	-	-
14.7	-	-	-	-	-	-	-	-	3	4	4	5	4	3	2	2	-	2	2	3	2	2	-	2	2	3	2	2	3	3	2	3	2	-	-	-	-
15.7	-	-	-	-	-	-	-	2	2	3	3	4	3	2	3	2	3	3	2	2	2	-	-	-	-	-	-	-	3	3	-	-	-	2	2	-	-
16.7a	-	-	-	-	-	-	2	2	2	3	3	3	2	3	3	2	2	3	3	2	2	2	-	-	-	-	2	2	-	-	-	-	-	-	-	-	-
23.9	-	-	-	2	2	2	2	3	5	6	7	8	6	5	8	8	6	5	4	4	4	3	3	2	2	2	3	2	4	4	3	3	2	-	-	-	-
25.7	-	-	-	-	-	-	3	2	3	4	4	4	4	4	5	4	3	2	2	4	5	5	4	4	3	2	2	2	3	3	3	2	2	-	-	-	-
26.7	-	-	-	-	-	-	2	3	3	4	5	5	4	4	4	4	3	2	2	3	3	2	3	2	2	2	3	3	3	3	2	2	2	-	-	-	-
27.7	-	-	-	-	-	-	-	3	5	6	5	5	5	4	5	4	3	3	3	3	4	6	4	3	4	3	3	2	2	3	3	2	2	-	-	-	2
28.7	-	-	-	-	2	3	2	4	4	5	5	5	6	5	5	4	5	3	2	8	11	10	5	3	2	2	2	2	3	3	3	2	2	-	-	-	-
31.7	-	-	-	-	-	3	4	5	5	5	4	5	6	7	7	9	8	7	6	14	20	19	10	4	3	3	4	3	5	5	3	2	2	-	-	-	-

Table 66b

Coronal observations at Climax, Colorado (6702A), west limb

Date GCT	Degrees south of the solar equator																		0°	Degrees north of the solar equator																	
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1953																																					
Oct 4.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-
8.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
18.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-	-	-
22.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.8a	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-
24.7	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-
25.7	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-
26.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 67b

Coronal observations at Sacramento Peak, New Mexico (5303A), west limb

Date GCT	Degrees south of the solar equator																		0°	Degrees north of the solar equator																	
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1953																																					
Oct 1.7	-	-	-	2	3	2	3	3	3	2	2	2	2	3	3	3	3	4	4	3	4	3	3	3	3	3	6	3	2	2	2	-	-	-	-	-	-
2.7	-	-	-	-	-	2	2	2	3	3	3	3	4	3	3	2	3	2	2	3	3	2	3	2	2	2	2	2	2	2	-	-	-	-	-	-	-
3.7a	-	-	-	-	-	-	-	-	-	-	2	2	2	2	3	3	4	3	2	2	2	2	4	4	3	3	2	3	3	3	2	2	-	-	-	-	-
4.7a	-	-	-	-	-	-	2	2	3	3	3	3	2	2	2	3	3	2	3	3	3	3	3	2	3	3	3	2	2	2	3	-	-	-	-	-	-
5.7a	-	-	-	-	-	-	-	-	2	2	3	2	3	3	3	2	2	-	-	3	8	13	12	5	4	4	3	2	-	-	-	-	-	-	-	-	-
6.7	-	-	-	-	-	-	-	2	2	3	3	2	2	2	3	3	4	2	2	5	10	16	17	10	6	4	3	3	2	-	-	-	-	-	-	-	-
7.7	-	-	-	-	-	-	2	2	3	3	2	3	2	3	3	3	8	4	3	11	14	22	32	23	11	8	6	5	4	4	4	3	3	2	-	-	-
8.7	-	-	-	-	-	-	-	2	2	3	3	3	3	2	3	2	3	2	3	3	4	5	11	12	5	4	3	3	4	3	2	2	2	-	-	-	-
9.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	3	2	2	3	4	5	6	5	4	3	4	5	4	3	5	4	3	-	-	-	-
10.7a	-	-	-	-	-	-	-	2	2	3	2	2	-	2	2	3	3	2	2	4	3	3	3	4	4	4	3	3	2	2	2	3	-	-	-	-	-
11.7a	-	-	-	-	-	-	-	-	2	3	3	3	2	2	2	3	3	2	3	2	2	2	3	3	3	3	3	3	3	3	2	4	4	3	-	-	-
12.8a	X	X	X	X	X	X	X	2	2	2	3	2	2	2	2	3	2	-	2	3	3	3	3	3	2	3	-	-	-	-	-	-	-	-	-	-	-
13.7a	-	-	-	-	3	3	3	3	4	5	3	3	3	2	3	2	2	4	5	3	4	3	4	3	4	3	2	2	2	3	3	-	-	-	-	-	-
14.7	-	-	-	-	2	2	2	3	2	2	3	4	4	4	5	5	7	13	14	6	5	5	8	7	6	6	5	5	8	8	8	7	3	2	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	-	2	3	3	3	4	4	5	14	4	5	5	6	5	4	4	4	4	3	4	5	3	2	-	-	-	-
16.7	-	-	-	-	-	-	2	2	2	3	3	2	3	3	3	4	4	5	4	3	3	5	8	6	5	3	4	3	3	4	3	-	-	-	-	-	-
23.9	-	-	-	-	-	-	2	2	2	4	3	4	3	2	2	5	8	7	3	11	14	13	11	4	3	3	4	3	4	2	2	-	-	-	-	-	-
25.7	-	-	-	-	-	2	2	2	3	3	3	3	3	3	2	3	3	2	3	3	7	12	11	8	4	3	3	3	2	2	2	2	-	-	-	-	-
26.7	-	-	-	-	2	2	2	2	3	3	3	3	2	2	3	3	2	2	3	4	5	5	4	3	2	3	3	3	4	3	2	-	-	-	-	-	-
27.7	2	-	-	-	2	-	-	2	2	3	4	4	4	3	3	4	3	2	2	3	3	2	2	3	3	3	4	4	4	3	2	-	-	-	-	-	-
28.7	-	-	-	-	-	-	-	-	2	2	3	3	2	2	2	3	3	3	3	3	3	2	2	3	3	2	3	3	3	3	2	2	-	-	-	-	-
31.7	-	-	-	-	-	-	-	2	2	3	2	2	2	3	3	3	3	3	5	7	8	6	5	4	4	3	4	5	5	4	3	2	2	-	-	-	-

Table 68a

Coronal observations at Sacramento Peak, New Mexico (6374A), east limb

Date	Degrees north of the solar equator																		0°	Degrees south of the solar equator																	
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1953																																					
Oct 1.7	4	3	4	3	2	2	2	-	-	2	2	3	4	2	3	4	4	5	5	8	7	8	11	5	4	3	3	2	3	3	-	2	2	-	-	2	2
2.7	4	2	3	3	4	3	2	2	2	2	2	2	5	4	2	3	10	4	4	5	4	5	6	6	5	3	3	2	3	2	2	3	2	-	-	-	2
3.7	2	3	3	2	3	2	2	-	-	2	2	3	3	4	3	3	8	2	2	3	2	3	3	4	3	3	2	3	4	3	2	2	3	-	2	-	2
4.7a	2	2	2	2	3	2	3	2	-	2	2	2	3	2	3	4	5	3	2	3	4	4	4	3	3	2	-	2	2	2	3	-	-	-	-	-	-
5.7a	2	2	2	2	-	3	2	-	2	2	3	3	3	3	2	3	5	4	3	3	4	4	4	3	3	2	-	-	-	-	-	-	-	-	-	-	-
6.7a	3	3	2	3	3	2	-	2	2	2	3	4	3	3	3	3	2	2	2	5	4	4	4	4	3	4	3	2	-	-	-	-	-	-	-	-	3
7.7	3	2	3	3	2	2	3	-	2	2	4	5	7	5	4	3	2	4	5	5	5	6	6	4	3	2	2	-	-	-	-	2	-	2	-	2	2
8.7a	-	-	-	-	-	-	-	-	-	-	2	3	3	2	3	2	2	2	2	2	8	4	3	2	2	3	3	2	-	-	-	-	-	-	-	-	-
9.7a	2	2	-	2	-	2	-	-	2	2	3	4	3	4	3	2	-	2	2	3	6	8	5	2	2	2	-	2	-	-	-	-	-	-	-	-	-
10.7	2	-	2	-	-	-	2	-	2	2	5	5	4	4	5	3	2	2	5	4	4	10	6	4	2	3	2	2	2	-	-	-	-	-	-	2	2
11.7a	3	3	2	3	-	2	2	2	-	3	5	4	3	4	5	4	3	4	4	5	8	7	6	5	3	2	2	2	-	2	2	-	-	-	-	-	2
12.8	-	3	3	2	2	-	-	2	2	2	5	4	5	3	5	6	5	11	15	5	5	8	7	4	5	5	4	3	2	2	X	X	X	X	X	X	X
13.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	3	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.7	2	4	3	3	2	2	-	-	-	2	3	2	2	3	5	7	13	14	12	11	8	5	5	4	6	5	5	5	3	-	2	2	3	-	2	2	2
15.7	3	4	2	2	3	2	2	2	2	-	3	-	2	3	5	7	8	7	8	7	7	6	5	5	4	4	5	5	2	2	-	-	2	-	2	2	2
16.7a	2	3	3	2	-	-	-	2	-	-	3	2	3	-	3	3	5	3	4	8	7	5	3	4	4	3	2	3	2	2	3	-	-	-	-	-	2
23.9	4	3	3	4	4	3	2	2	2	2	3	4	5	5	4	3	4	5	11	8	7	6	6	8	8	9	7	4	3	3	2	3	3	3	2	2	3
25.7	3	3	2	5	3	3	2	2	2	4	4	4	4	4	3	3	2	3	4	4	5	5	5	3	2	2	3	4	2	2	3	3	-	-	-	2	2
26.7	3	3	3	2	3	2	-	-	2	2	2	4	4	2	3	2	2	4	5	5	8	6	4	2	2	2	3	3	3	2	2	2	2	2	2	3	3
27.7	3	4	4	4	3	2	-	-	3	3	5	4	3	4	5	7	7	8	7	6	5	5	5	6	5	4	5	3	2	2	-	2	-	2	3	3	3
28.7	3	2	3	3	2	2	2	-	-	2	3	4	4	5	4	5	4	4	7	8	10	8	9	10	7	5	4	4	4	3	2	2	2	2	2	3	3
31.7	3	5	4	5	3	3	3	2	2	3	4	3	3	4	5	5	4	4	5	6	16	17	10	7	8	5	4	2	2	2	3	2	2	2	3	4	3

Table 69a

Coronal observations at Sacramento Peak, New Mexico (6702A), east limb

Date	Degrees north of the solar equator																		0°	Degrees south of the solar equator																	
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1953																																					
Oct 1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3	2	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	X	X
13.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	4	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 68b

Coronal observations at Sacramento Peak, New Mexico (6374A), west limb

Date GCT	Degrees south of the solar equator																		0°	Degrees north of the solar equator																	
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1953																																					
Oct 1.7	2	2	3	2	3	2	3	2	2	2	3	3	6	6	5	5	5	7	8	5	6	8	7	4	5	5	4	3	3	2	2	3	2	3	2	3	4
2.7	2	3	2	2	2	3	3	2	2	3	4	5	4	3	4	5	5	12	11	8	7	6	5	5	4	4	4	3	2	3	2	2	2	3	4	4	4
3.7a	2	3	2	2	-	-	2	-	-	2	2	3	4	3	3	4	4	5	4	5	5	X	X	4	4	3	5	2	2	-	2	3	-	2	2	2	2
4.7a	-	-	2	-	-	-	-	-	-	-	3	3	4	3	3	4	5	4	5	6	8	7	5	2	2	2	3	2	-	-	2	2	-	-	2	2	2
5.7a	-	2	3	3	2	2	2	2	-	2	2	3	3	3	4	4	5	6	5	5	7	14	10	-	-	2	2	3	2	-	-	-	-	-	2	-	2
6.7	3	2	2	2	2	3	-	-	-	2	3	2	3	4	5	7	8	6	4	4	3	14	16	-	2	-	2	-	-	-	-	3	2	-	2	2	3
7.7	2	3	2	3	-	3	2	-	-	-	3	2	2	4	5	10	9	7	5	5	3	5	16	3	-	3	2	-	-	-	-	-	2	2	3	2	3
8.7	-	2	-	2	-	2	2	2	-	2	2	-	2	2	3	4	3	3	4	2	3	2	6	2	3	-	2	2	3	3	2	2	2	-	-	-	-
9.7a	-	2	2	2	-	-	-	-	-	-	2	2	2	3	3	3	2	3	4	3	3	2	2	3	2	-	2	-	-	-	3	-	-	-	-	3	2
10.7a	2	2	3	2	2	2	-	-	2	2	2	2	3	3	2	3	2	3	3	5	3	2	-	-	2	2	5	3	3	2	2	-	-	2	-	2	2
11.7a	2	2	2	2	3	2	-	-	3	2	3	3	4	3	4	2	4	4	4	2	2	2	3	2	-	2	3	2	2	-	-	-	-	2	3	2	3
12.8a	X	X	X	X	X	3	3	2	-	-	2	3	3	2	2	2	2	3	3	3	3	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-
13.7	-	-	-	-	-	-	2	2	2	3	3	4	2	3	2	-	2	3	4	4	5	4	4	3	-	4	3	4	-	-	-	-	-	-	-	-	-
14.7	2	2	3	2	3	3	2	-	2	3	3	3	3	3	4	8	20	20	15	5	7	5	3	2	3	5	8	4	2	-	2	-	2	-	2	3	2
15.7	2	3	3	3	3	2	-	-	2	-	3	2	3	3	4	5	8	20	16	5	4	3	2	3	2	3	3	2	2	3	2	2	3	2	2	3	3
16.7	2	2	2	2	-	-	-	2	-	2	-	-	2	3	5	8	11	12	13	4	3	3	-	-	2	-	2	2	-	-	-	-	-	-	-	2	2
23.9	3	4	3	2	3	3	2	3	2	2	4	8	9	8	8	7	7	5	6	5	6	5	4	4	7	8	6	6	4	3	2	2	4	3	3	4	4
25.7	2	2	2	-	2	3	2	-	-	-	3	3	4	5	5	5	7	7	6	5	6	5	4	4	4	3	6	4	4	4	3	2	4	2	3	2	3
26.7	3	2	3	3	2	2	-	2	-	2	3	4	5	4	5	4	3	3	4	9	8	9	8	7	4	3	3	3	2	2	2	-	2	2	3	2	3
27.7	3	3	4	3	3	3	2	3	5	2	5	5	6	6	11	7	7	8	7	10	11	12	10	8	5	4	5	4	3	2	2	3	3	3	2	3	3
28.7	3	-	-	2	3	2	2	2	-	-	4	8	3	5	6	5	5	6	7	8	8	7	7	6	4	2	3	6	4	2	2	2	2	3	4	4	3
31.7	3	4	3	2	2	3	2	2	2	3	8	9	8	7	10	12	11	13	12	11	10	7	4	3	4	4	5	3	3	2	3	2	2	2	2	3	3

Table 69b

Coronal observations at Sacramento Peak, New Mexico (6702A), west limb

Date GCT	Degrees south of the solar equator																		0°	Degrees north of the solar equator																	
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1953																																					
Oct 1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-
6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-
7.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	3	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-
8.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-
9.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.8a	X	X	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 70

Sudden Ionosphere Disturbances Observed at Washington, D. C.

October 1953

1953 Day	GCT Beginning	GCT End	Location of transmitters	Relative intensity at minimum*	Other phenomena
October 14	1426	1500	Ohio, Mexico, North Dakota	0.2	Terr.mag.pulse** 1423-1430 Solar flare*** 1420

*Ratio of received field intensity during SID to average field intensity before and after, for station KQ2XAU, (formerly W8XAL), 6080 kilocycles, 600 kilometers distant.

**As observed on Cheltenham magnetogram of the United States Coast and Geodetic Survey.

***Time of observation at Sacramento Peak, New Mexico, and at McMath-Hulbert Observatory, Pontiac, Michigan.

Table 71

Sudden Ionosphere Disturbances Reported by Engineer-in-Chief, Cable and Wireless, Ltd., as Observed in England

1953 Day	GCT Beginning	GCT End	Receiving station	Location of transmitters	Other phenomena
October 14	0955	1005	Brentwood	Austria, Bahrein I., Barbados, Belgian Congo, Brazil, Greece, India, Iraq, Kenya, New York, Palestine, Portugal, Southern Rhodesia, Spain, Switzerland, Syria, Turkey, U.S.S.R., Yugo-slavia, Zanzibar	Solar flare* 1012
14	0954	1010	Somerton	China, Cyprus, Egypt, India, Iran, Nigeria, Thailand, Union of South Africa	Solar flare* 1012

*Time of observation at Wendelstein Observatory, Germany. Flare began before time of observation.

Table 72

Sudden Ionosphere Disturbances Reported by the Netherlands Postal and Telecommunication Services, as Observed at Nederhorst den Berg, Netherlands

Day		GCT Beginning	GCT End	Location of transmitters	Other phenomena
1952	July 28	1040	1050	Surinam	
	November 15	1256	1305	Surinam	
	22	1046	1100	Surinam, Egypt	
1953	March 31	1155	1320	Egypt, Surinam	
	May 4	0931	1045	Washington, Egypt, Surinam	
	5	0445	0530	Egypt	
	August 11	1537	1555	Surinam	Solar flare* 1536 Solar flare** 1538

*Time of observation at McMath-Hulbert Observatory, Pontiac, Michigan.
**Time of observation at Sacramento Peak, New Mexico.

<u>Note</u>: Observers are invited to send to the CRPL information on times of beginning and end of sudden ionosphere disturbances for publication as above. Address letters to the Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

Table 73

Solar Flares, October 1953

Observatory	Date 1953	Time Observed Beginning (GCT)	Time Observed Ending (GCT)	Duration (Min)	Area (Mill) (of) (Visible) (Hemisph)	Position Latitude (Deg)	Position Longitude Diff (Deg)	Time of Maximum (GCT)	Int. of Maximum	Relative Area of Maximum (Tenths)	Importance	SID Observed
Wendel.	Oct.14	1012B	1024A	App.12	120	S07	W35	1012			1+	
Sac.Peak	14	1420	1433	13	178	S08	W38	1425	12	1	1	1425
McMath	14	1420	1530	70		S09	W39	-----			1+	1425
Sac.Peak	31	1600	1800	120	40	S08	E69	1640	10	5	1 -	

Wendel. = Wendelstein.
Sac.Peak = Sacramento Peak.

B Flare began before given time.
A Flare ended after given time.
Q Time reported as questionable.

Table 74

Indices of Geomagnetic Activity for September 1953

Preliminary values of international character-figures, C;
Geomagnetic planetary three-hour-range indices, Kp;
Magnetically selected quiet and disturbed days

Gr. Day 1953	C	Values Kp three-hour interval 1	2	3	4	5	6	7	8	Sum	Final Selected Days
1	0.8	2+	3-	4-	3o	4o	3o	3-	2o	23+	Five
2	0.9	5-	4o	4o	3-	3-	3+	3+	3o	28-	Quiet
3	1.5	2+	2-	3-	3-	3o	5+	5+	7+	30+	
4	1.7	7+	7-	5-	5o	4-	3+	5+	5-	41-	9
5	1.1	6o	4+	3o	2+	2+	1+	3+	3o	26-	14
											28
6	0.8	1o	1+	5o	3-	3o	1-	3-	3o	19+	29
7	0.8	1+	3o	3+	3+	3-	3+	2-	3+	22o	30
8	0.5	3o	2+	3o	4-	2-	2o	2-	1-	18o	
9	0.3	3o	3+	2-	1o	1-	1-	1-	1+	12+	
10	0.6	1+	1-	2o	2-	2+	2o	2-	4-	15+	
11	0.9	6-	3-	3o	2+	3o	1o	2-	1+	21-	Five
12	0.6	2o	1+	2o	3o	2+	2o	3o	3+	19o	Disturbed
13	0.5	3o	3o	3+	3o	1+	1o	1o	2+	18o	
14	0.0	0+	1-	1+	1-	0+	1-	1-	0o	5-	3
15	1.3	0o	3-	3-	3+	4o	4-	5o	3o	24+	4
											19
16	1.0	3-	3-	2+	3o	3-	4-	4-	3-	23+	20
17	0.7	4o	3+	3+	2o	3o	2o	3o	2-	22+	23
18	1.0	2+	3-	3-	1o	1-	2+	4+	6-	22-	
19	1.8	6+	6+	6o	6+	6o	7-	5-	5o	47+	
20	1.4	5+	5+	4+	3+	4+	4+	4+	5-	36o	
21	1.2	4+	4-	5o	4o	4o	4+	3o	3+	32-	Ten
22	1.1	5+	5-	6-	4-	3-	1+	4-	5-	32-	Quiet
23	1.4	4o	5+	5+	5o	5+	5o	5o	4o	39o	
24	1.2	4o	4o	5+	5-	5o	3-	4-	3o	32+	8
25	0.8	3o	2o	3+	3-	4-	3o	3-	2-	22o	9
											10
26	0.5	1+	1+	2+	2o	2o	2-	2+	3+	16+	12
27	0.9	5-	5-	4+	3+	3o	2o	2o	1o	25o	13
28	0.3	3-	3+	2o	1o	1+	1+	2o	1o	15-	14
29	0.2	1-	1+	1-	1o	2-	2-	1-	0+	8o	26
30	0.5	0o	1+	2-	2o	2-	1+	3o	3-	14-	28
											29
Mean:	0.88										30

GRAPHS OF IONOSPHERIC DATA

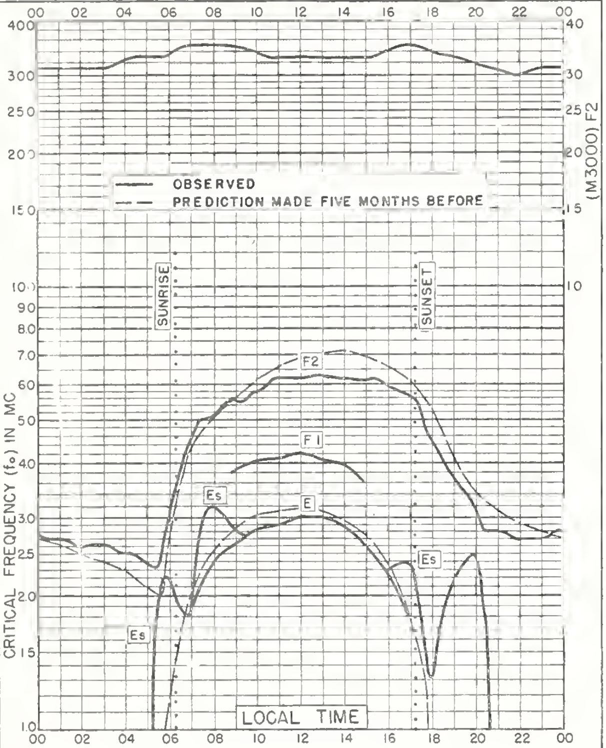


Fig. I. WASHINGTON, D.C. 38.7° N, 77.1° W OCTOBER 1953

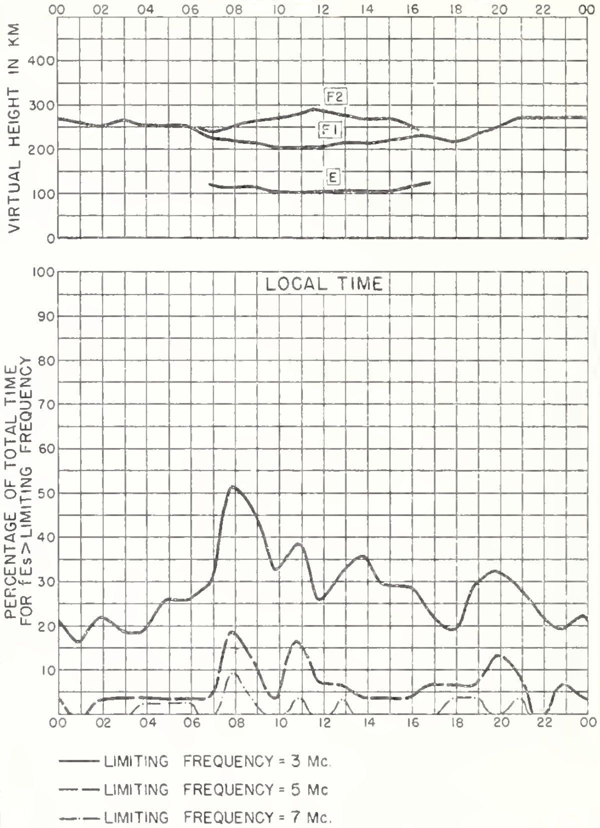
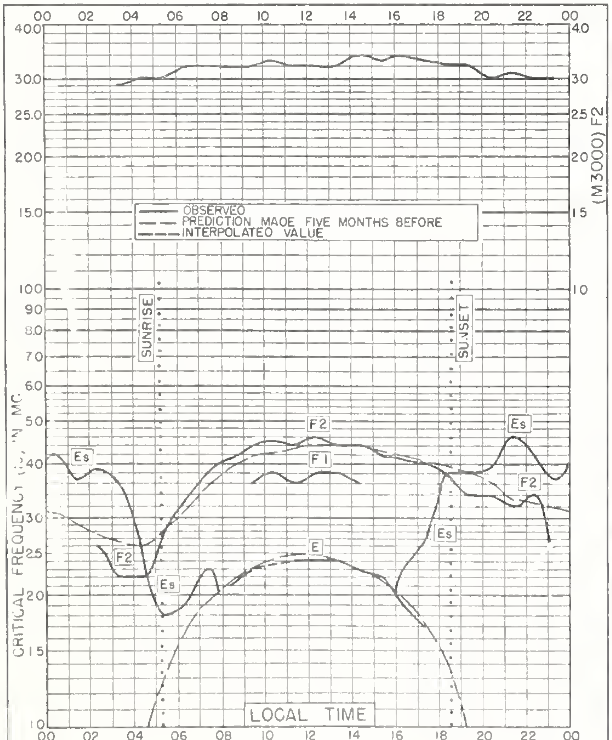


Fig. 2. WASHINGTON, D.C. OCTOBER 1953



ig. 3 TROMSO, NORWAY 69.7° N, 19.0° E SEPTEMBER 1953

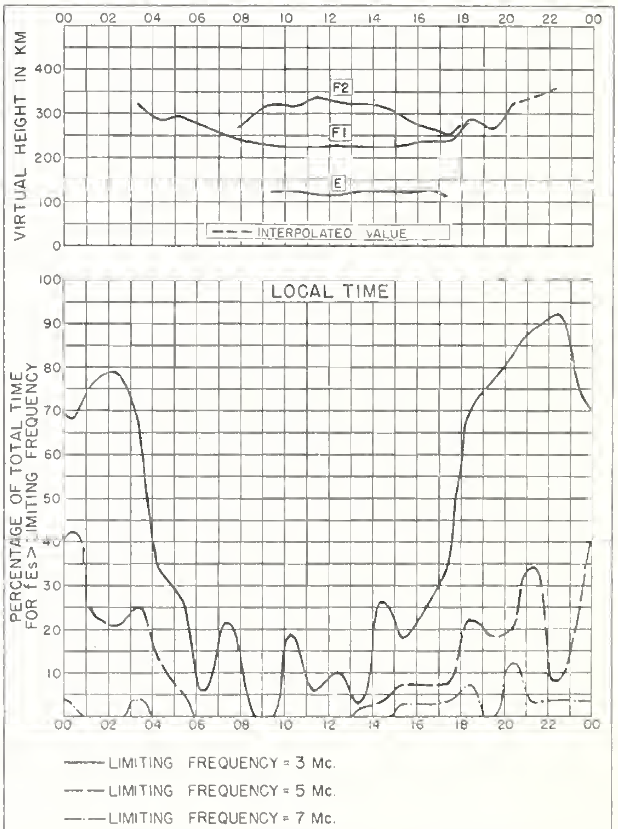


Fig. 4 TROMSO, NORWAY SEPTEMBER 1953

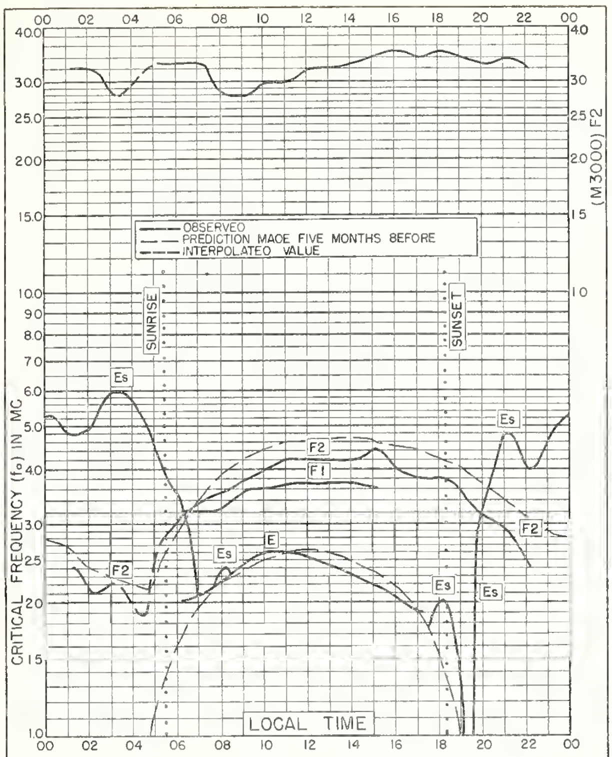


Fig. 5. FAIRBANKS, ALASKA
64.9°N, 147.8°W SEPTEMBER 1953

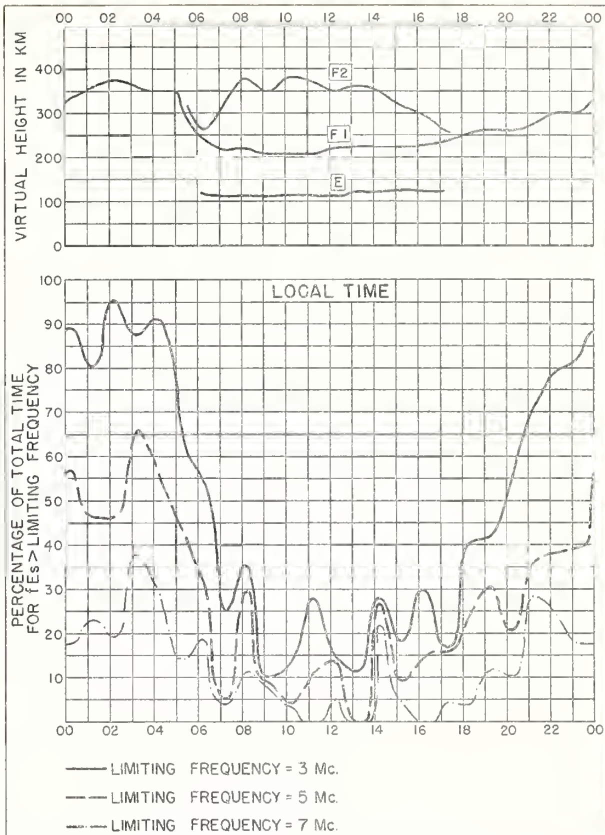


Fig. 6. FAIRBANKS, ALASKA SEPTEMBER 1953

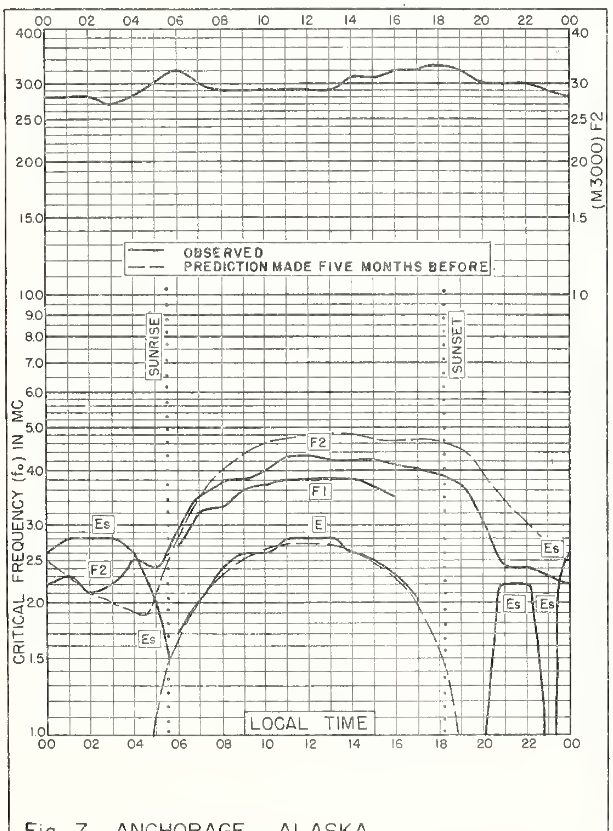


Fig. 7. ANCHORAGE, ALASKA
61.2° N, 149.9° W SEPTEMBER 1953

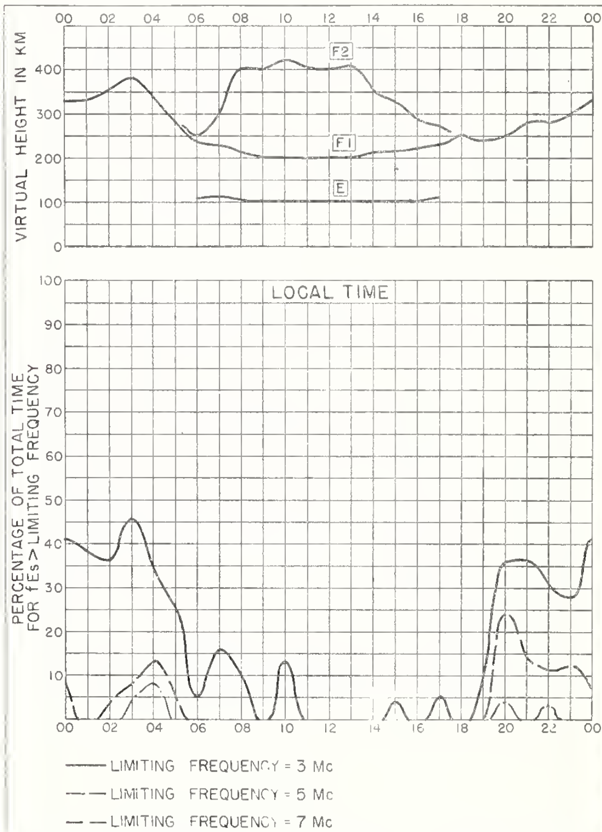


Fig. 8 ANCHORAGE, ALASKA SEPTEMBER 1953

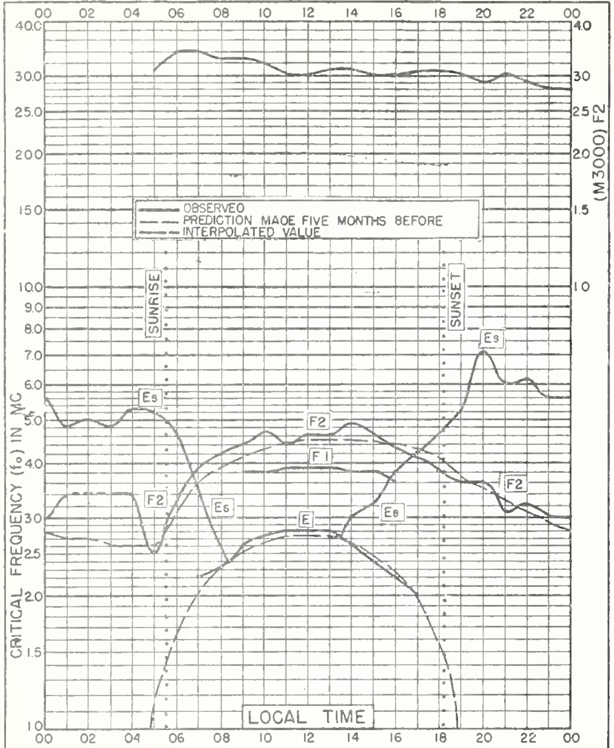
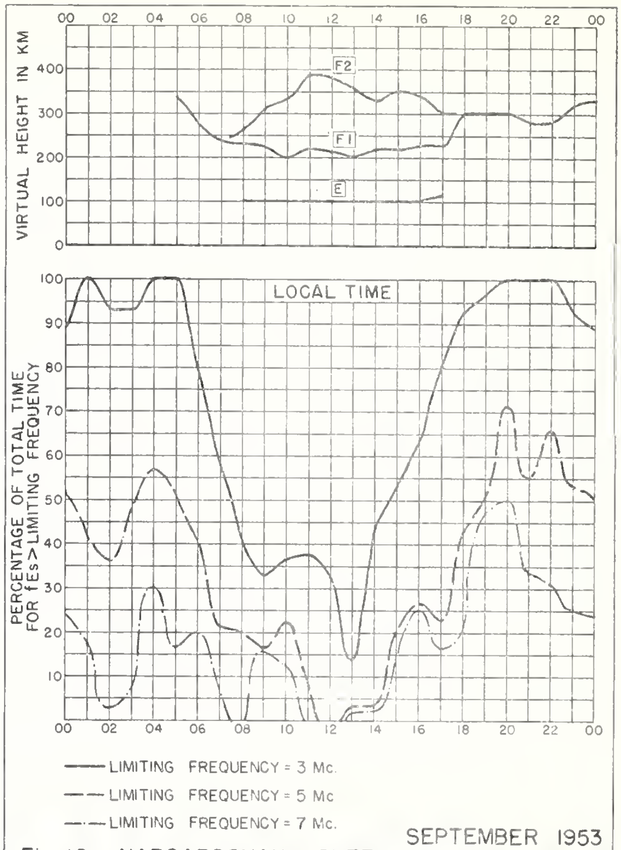


Fig. 9. NARSARSSUAK, GREENLAND
61.2°N, 45.4°W SEPTEMBER 1953



SEPTEMBER 1953
Fig. 10. NARSARSSUAK, GREENLAND

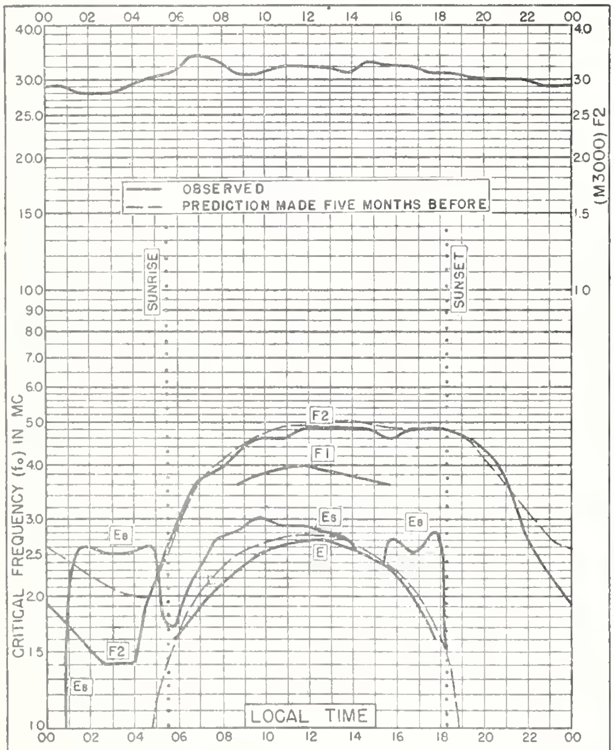


Fig. 11. OSLO, NORWAY
60.0°N, 11.1°E SEPTEMBER 1953

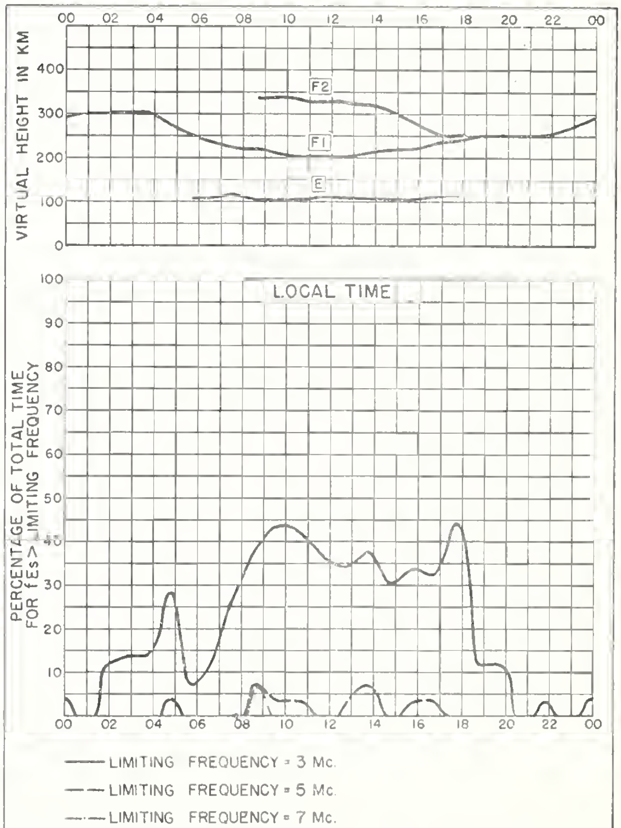


Fig. 12. OSLO, NORWAY SEPTEMBER 1953

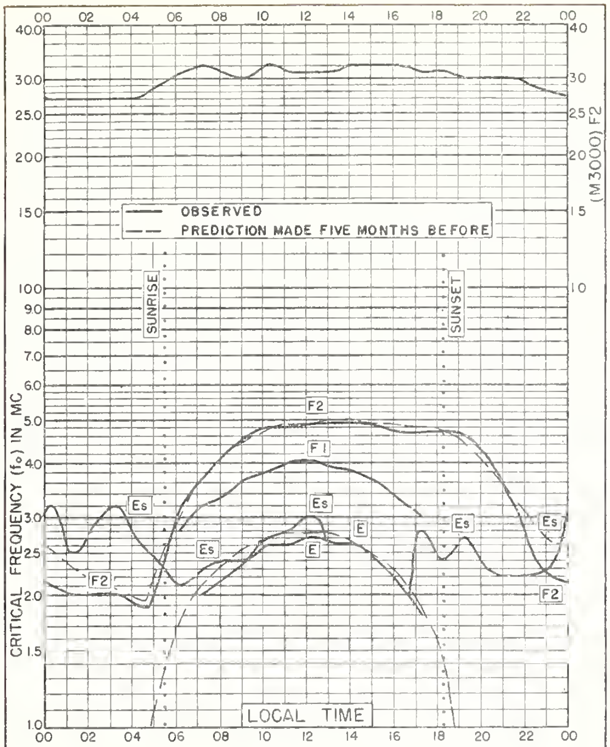


Fig. 13. UPSALA, SWEDEN
59.8° N, 17.6° E SEPTEMBER 1953

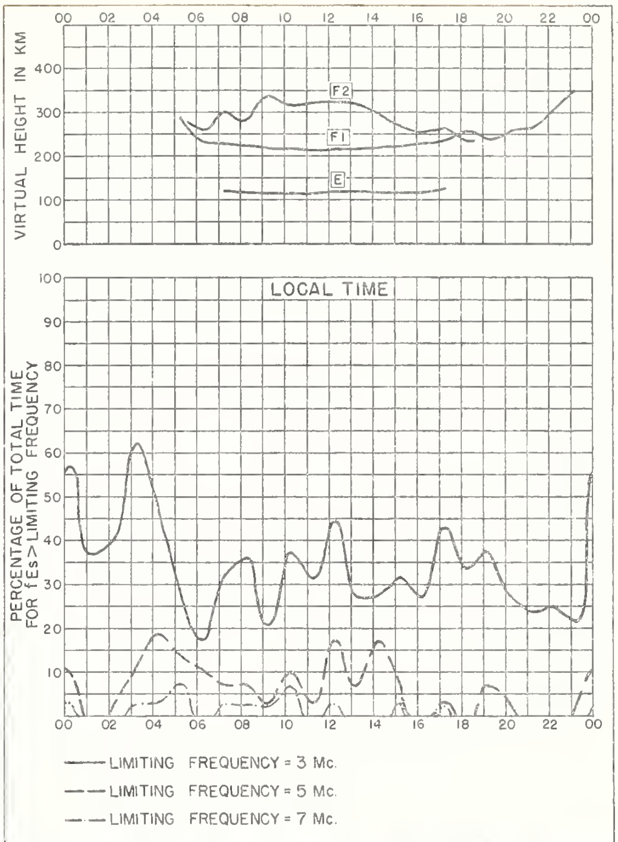


Fig. 14. UPSALA, SWEDEN SEPTEMBER 1953

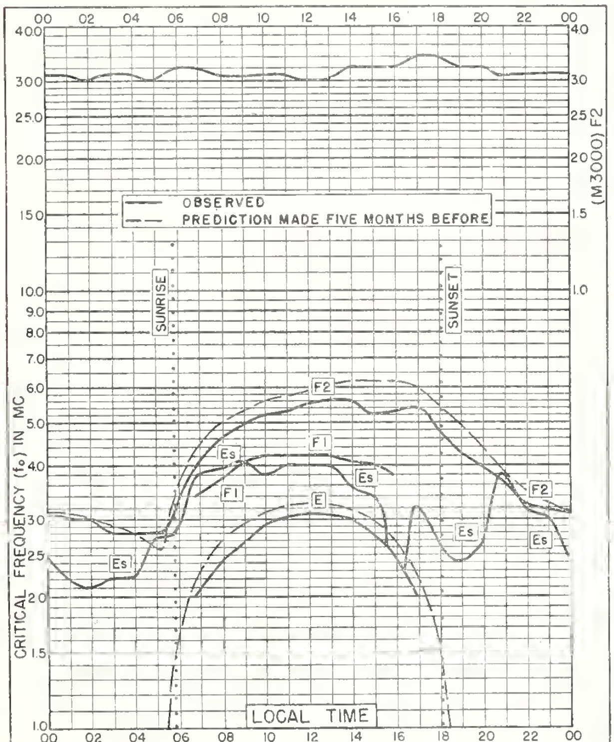
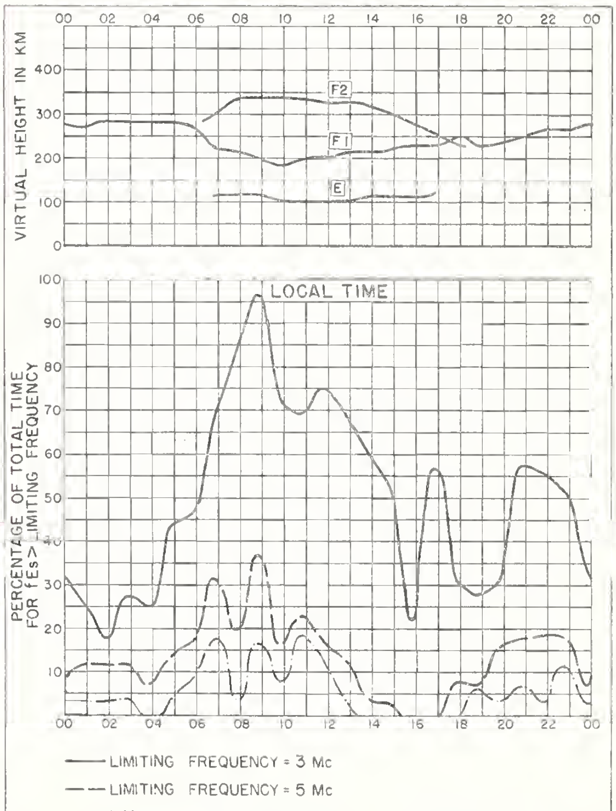


Fig. 15. SAN FRANCISCO, CALIFORNIA
37.4° N, 122.2° W SEPTEMBER 1953



SEPTEMBER 1953
Fig. 16. SAN FRANCISCO, CALIFORNIA

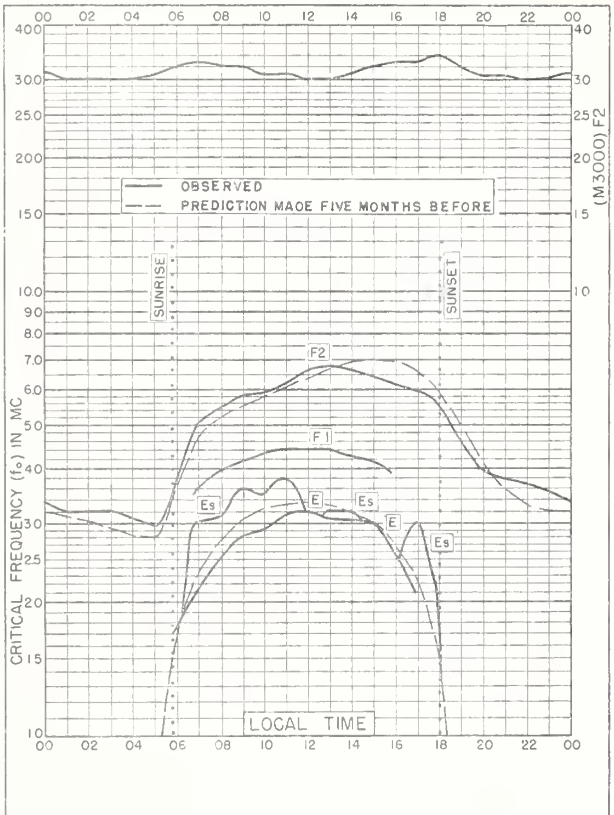
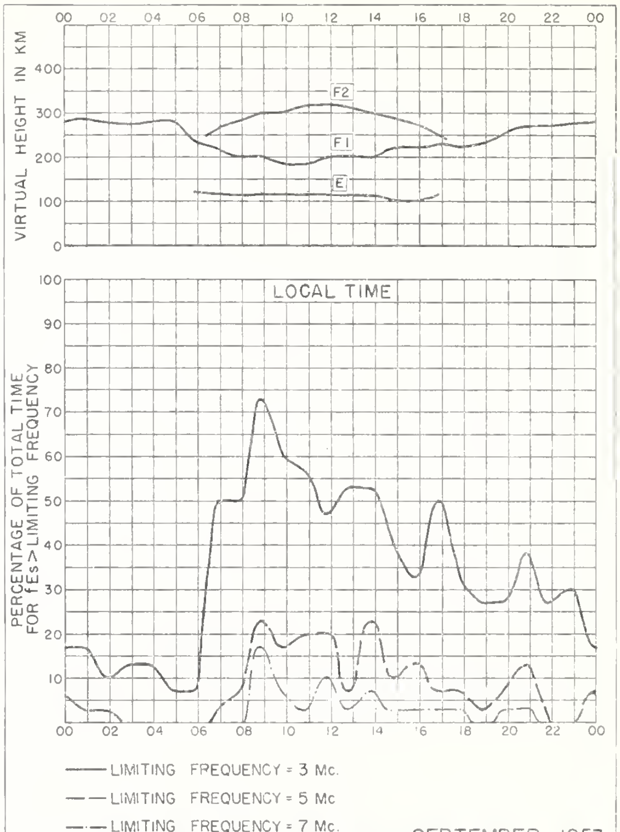


Fig. 17 WHITE SANDS, NEW MEXICO
32.3°N, 106.5°W SEPTEMBER 1953



SEPTEMBER 1953
Fig. 18. WHITE SANDS, NEW MEXICO

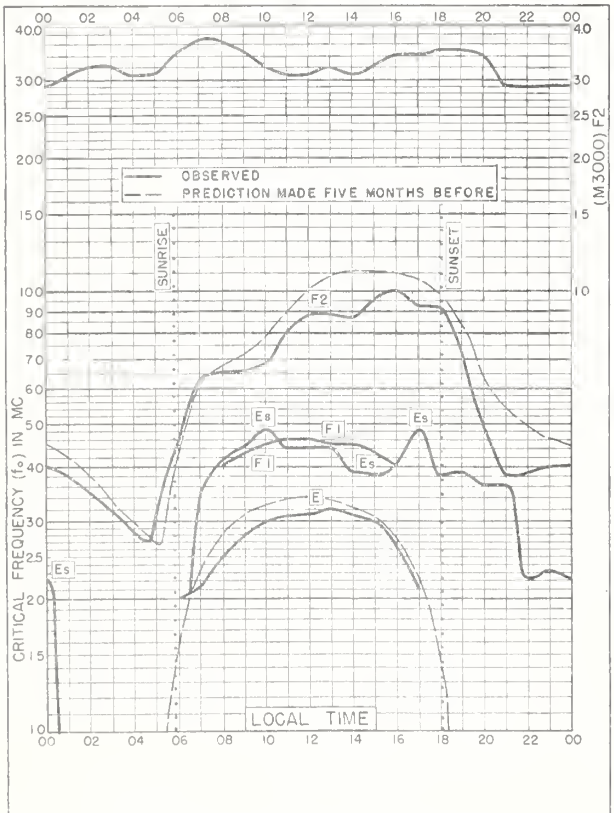


Fig. 19. OKINAWA I.
26.3°N, 127.8°E SEPTEMBER 1953

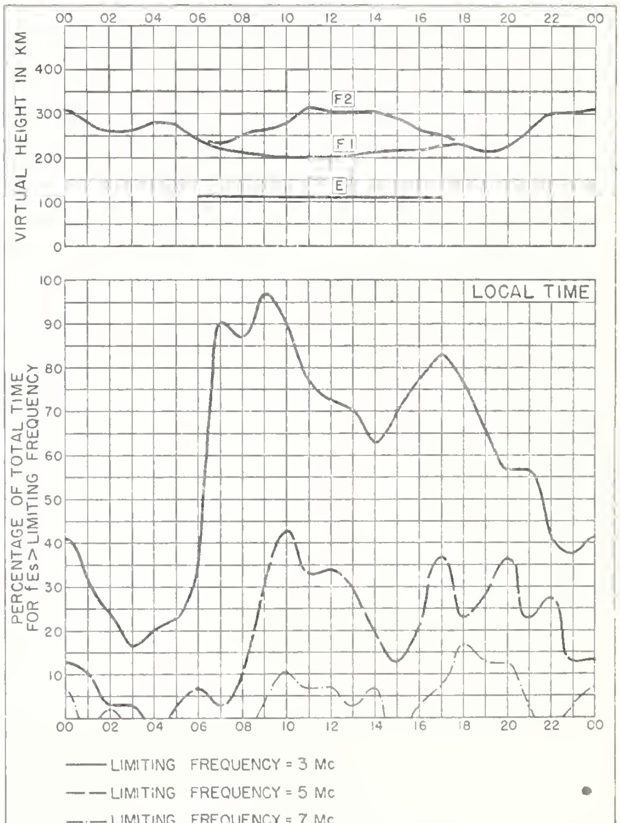


Fig. 20 OKINAWA I. SEPTEMBER 1953

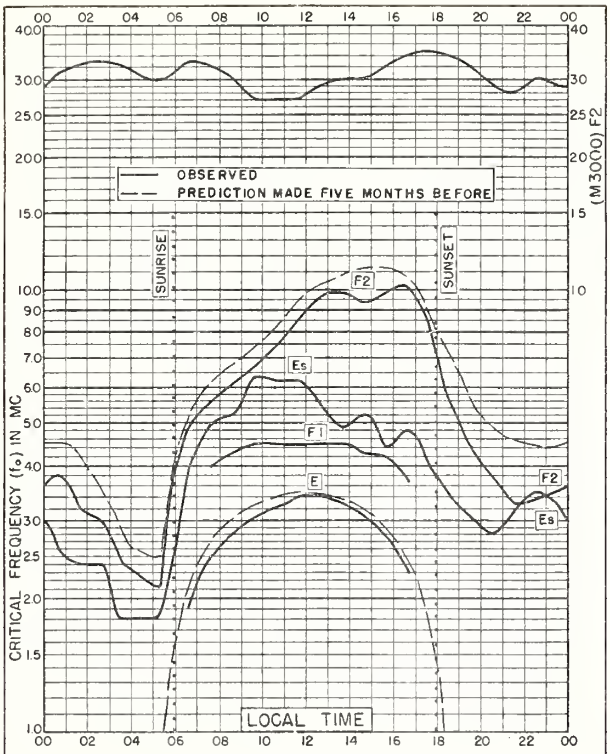


Fig. 21. MAUI, HAWAII
20.8° N, 156.5° W SEPTEMBER 1953

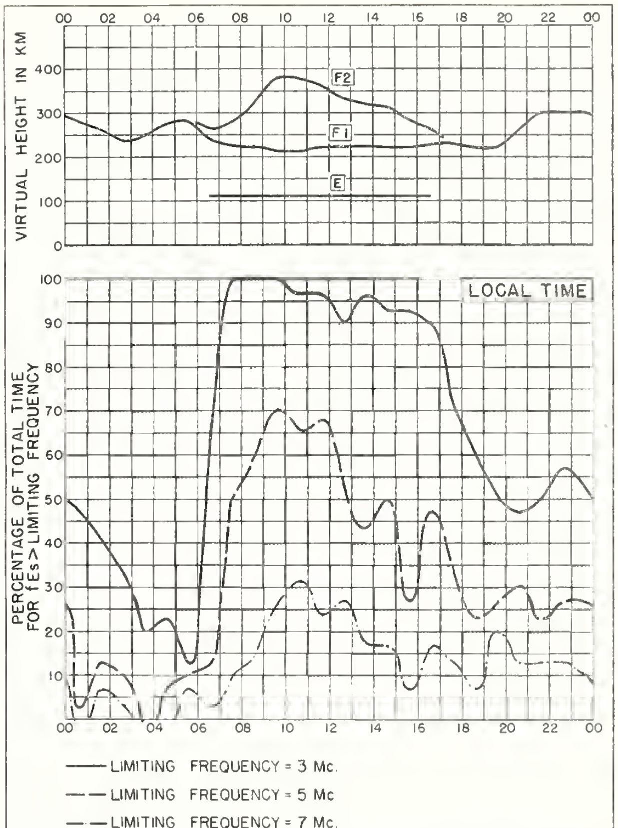


Fig. 22. MAUI, HAWAII SEPTEMBER 1953

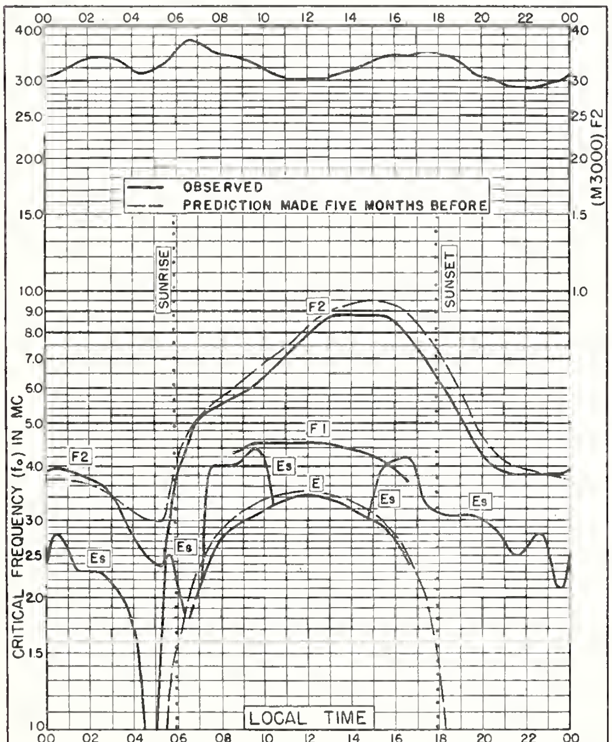


Fig. 23. PUERTO RICO, W. I.
18.5° N, 67.2° W SEPTEMBER 1953

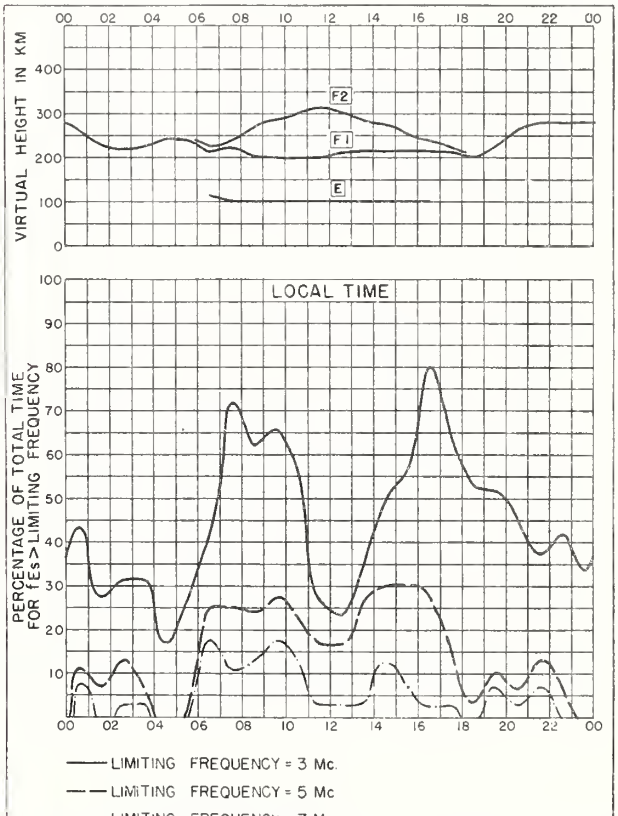


Fig. 24. PUERTO RICO, W. I. SEPTEMBER 1953

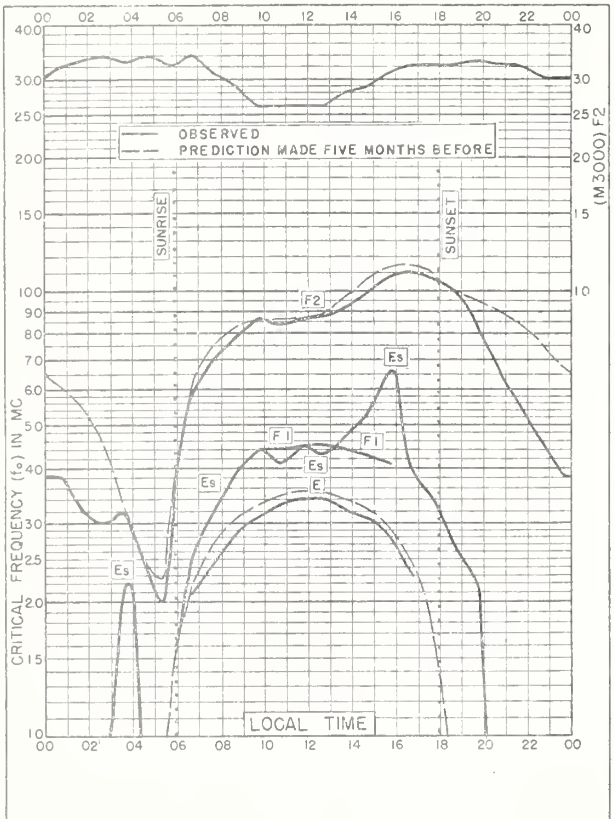


Fig. 25 GUAM I.
13.6° N, 144.9° E SEPTEMBER 1953

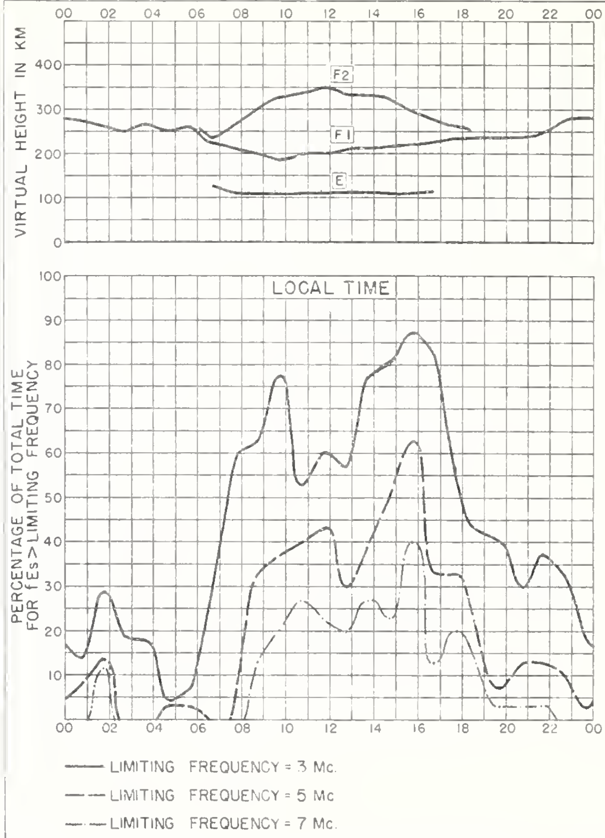


Fig. 26 GUAM I. SEPTEMBER 1953

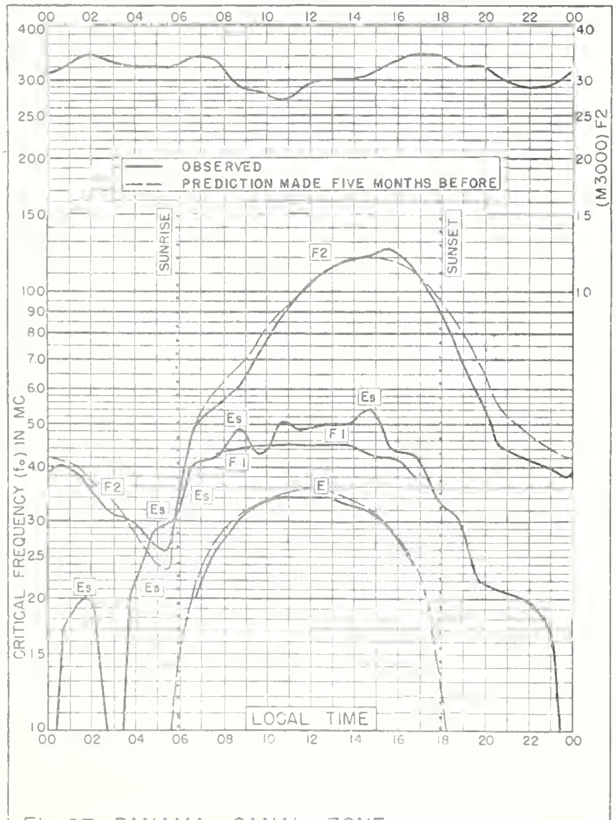
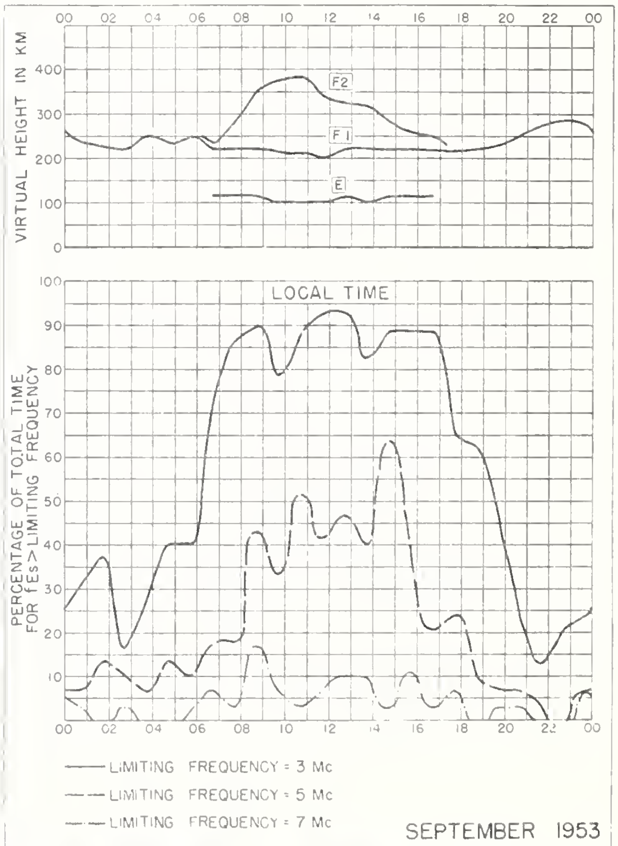


Fig. 27 PANAMA CANAL ZONE
9.4° N, 79.9° W SEPTEMBER 1953



SEPTEMBER 1953
Fig. 28. PANAMA CANAL ZONE

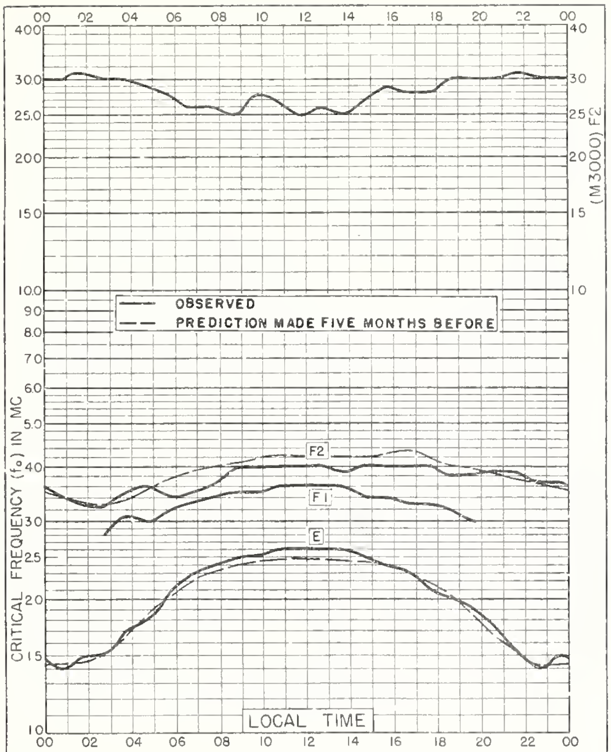


Fig. 29. RESOLUTE BAY, CANADA
74.7°N, 94.9°W AUGUST 1953

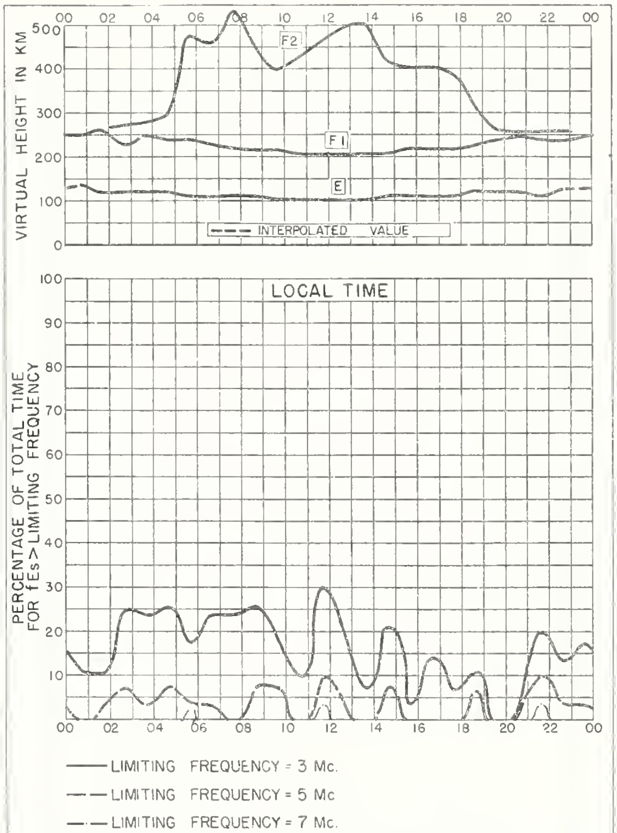


Fig. 30. RESOLUTE BAY, CANADA AUGUST 1953

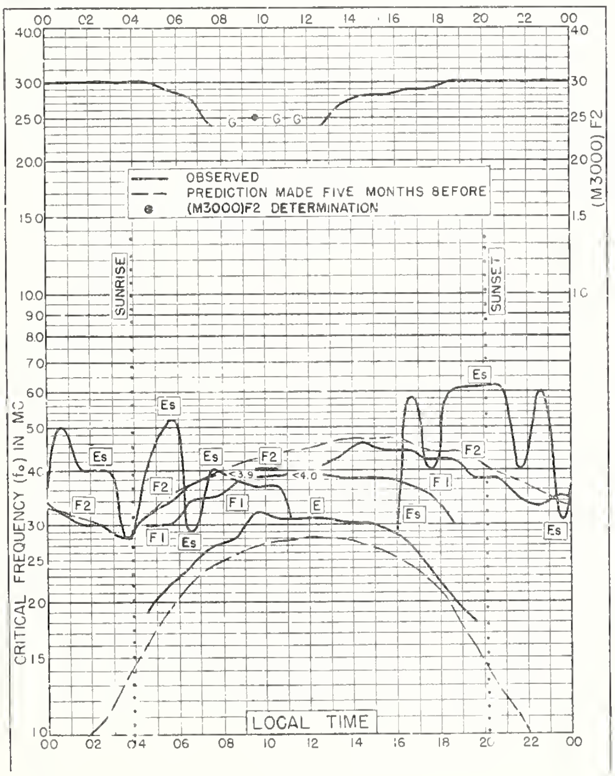


Fig. 31. BAKER LAKE, CANADA
64.3°N, 96.0°W AUGUST 1953

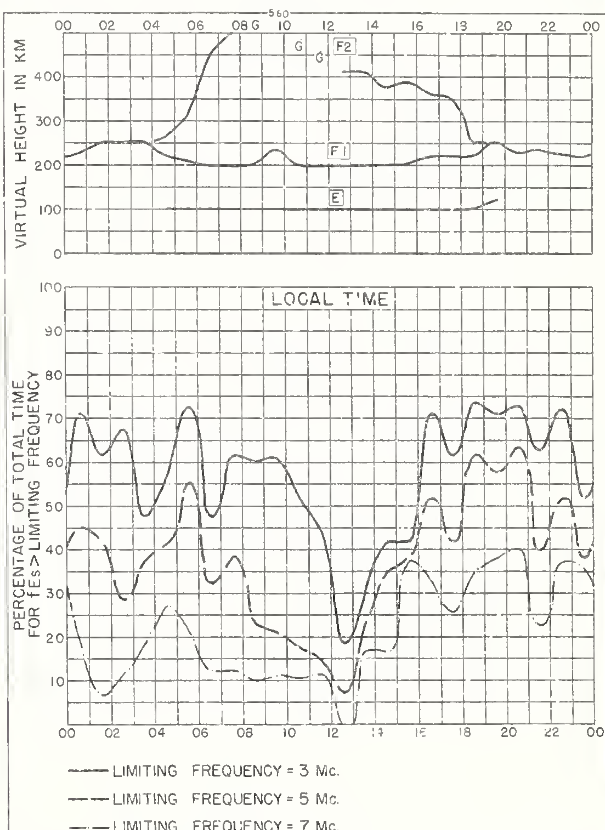


Fig. 32. BAKER LAKE, CANADA AUGUST 1953

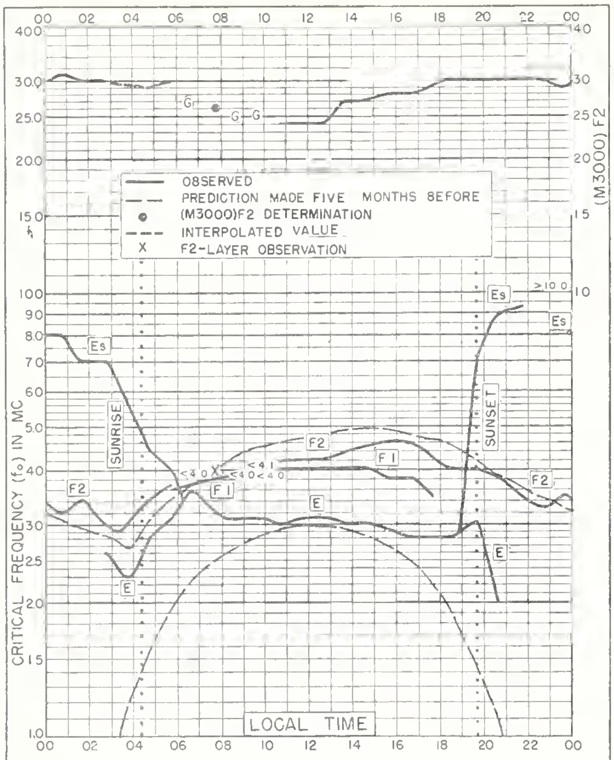


Fig. 33. CHURCHILL, CANADA
58.8°N, 94.2° W AUGUST 1953

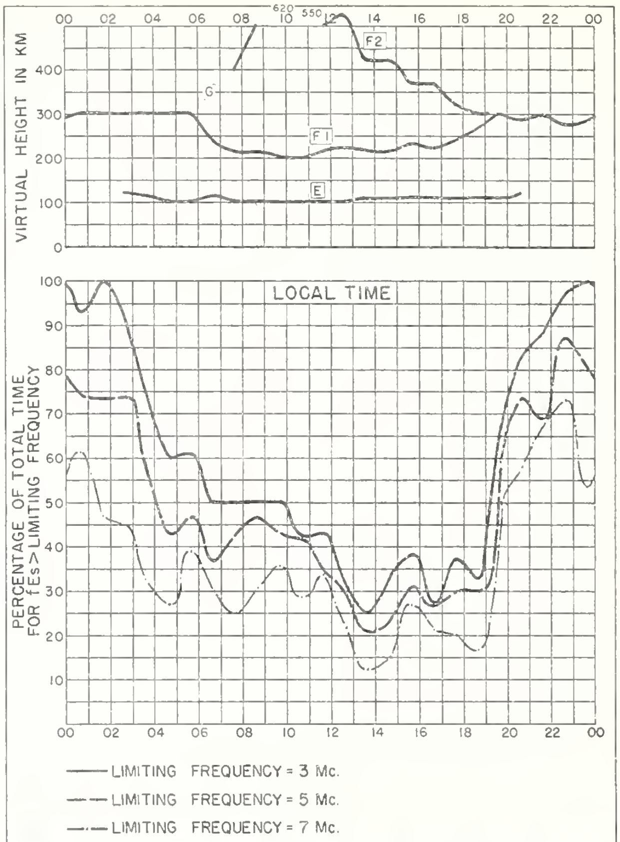


Fig. 34. CHURCHILL, CANADA AUGUST 1953

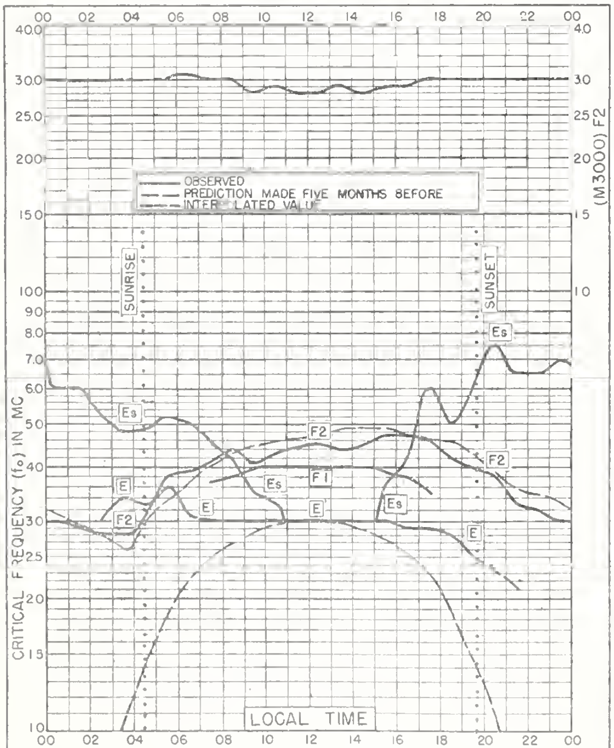


Fig. 35. FORT CHIMO, CANADA
58.1°N, 68.3° W AUGUST 1953

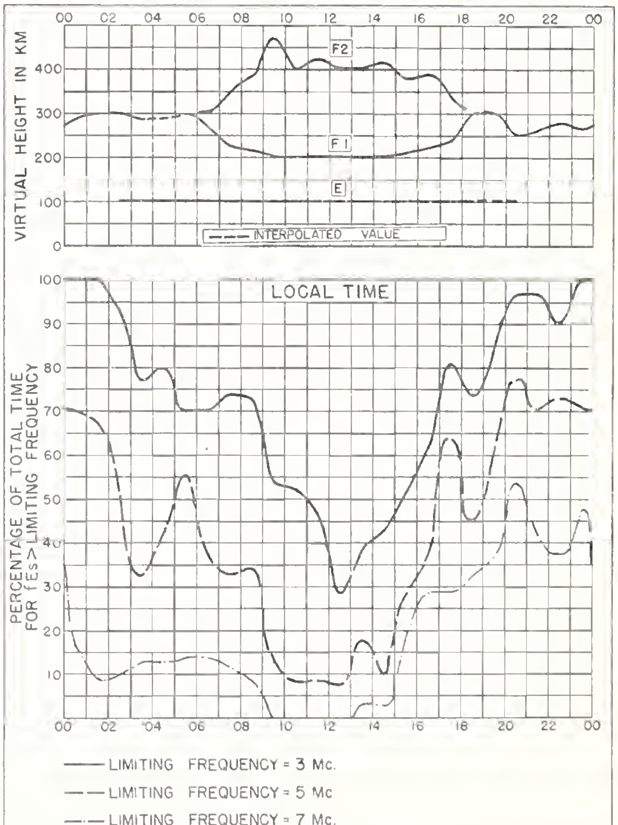


Fig. 36. FORT CHIMO, CANADA AUGUST 1953

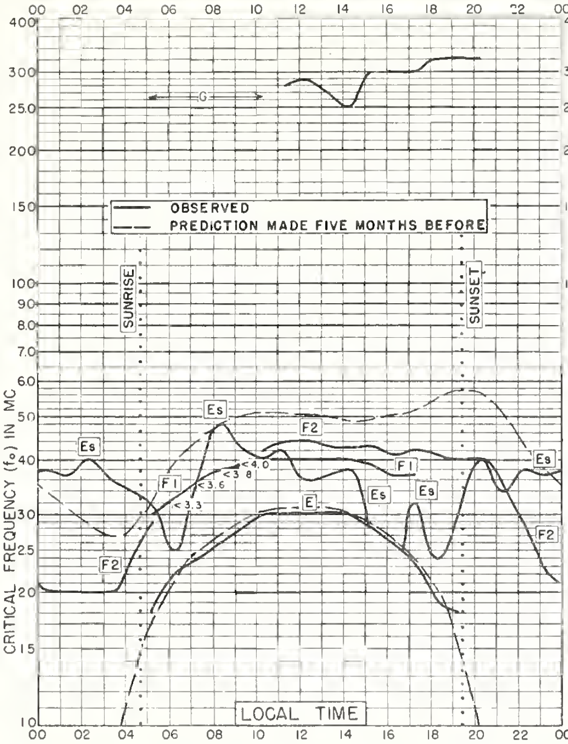


Fig. 37. PRINCE RUPERT, CANADA
54.3°N, 130.3°W AUGUST 1953

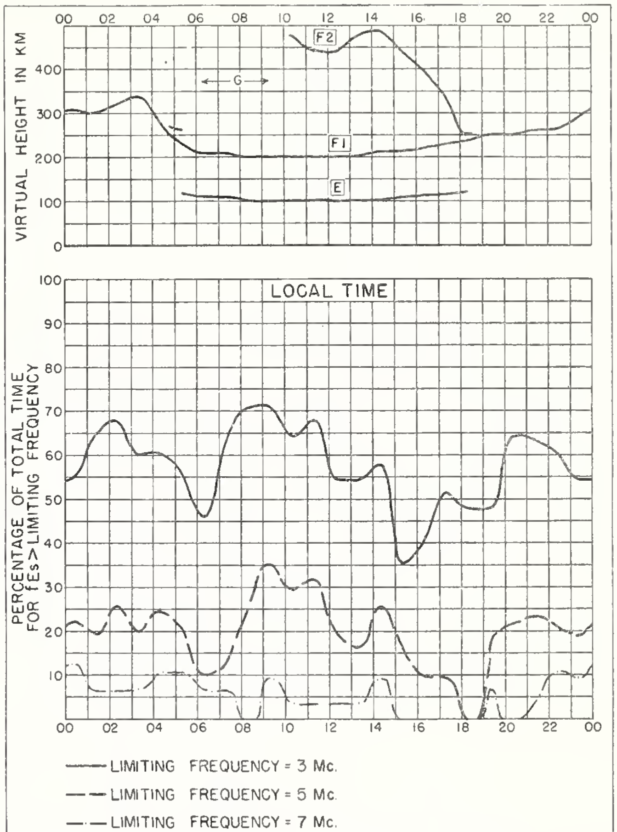


Fig. 38. PRINCE RUPERT, CANADA AUGUST 1953

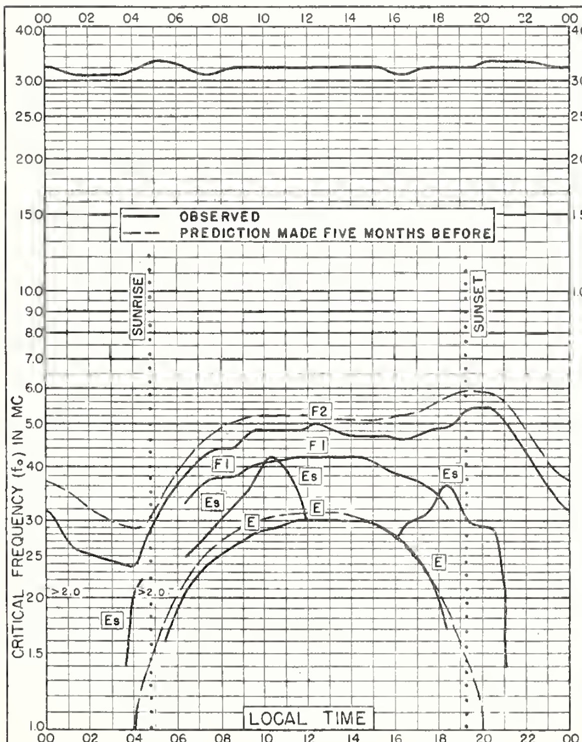


Fig. 39. DE BILT, HOLLAND
52.1° N, 5.2° E AUGUST 1953

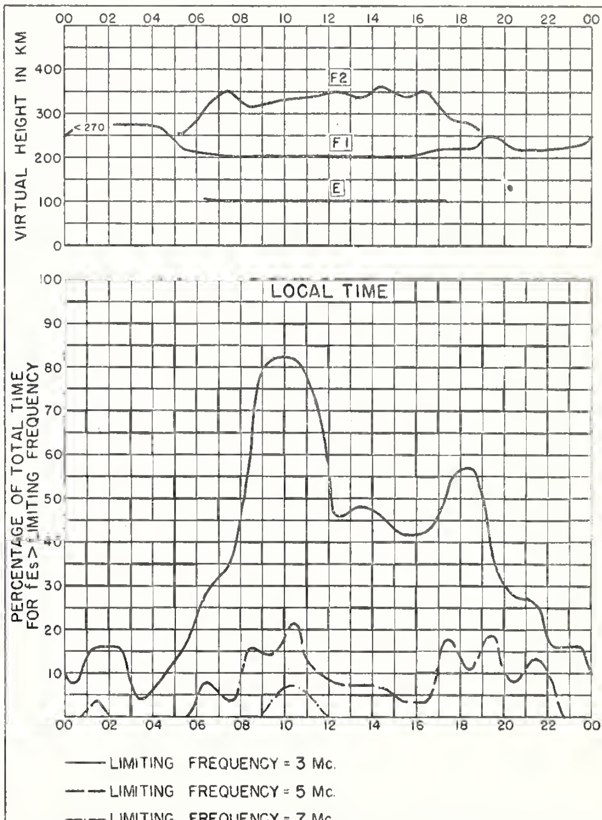


Fig. 40. DE BILT, HOLLAND AUGUST 1953

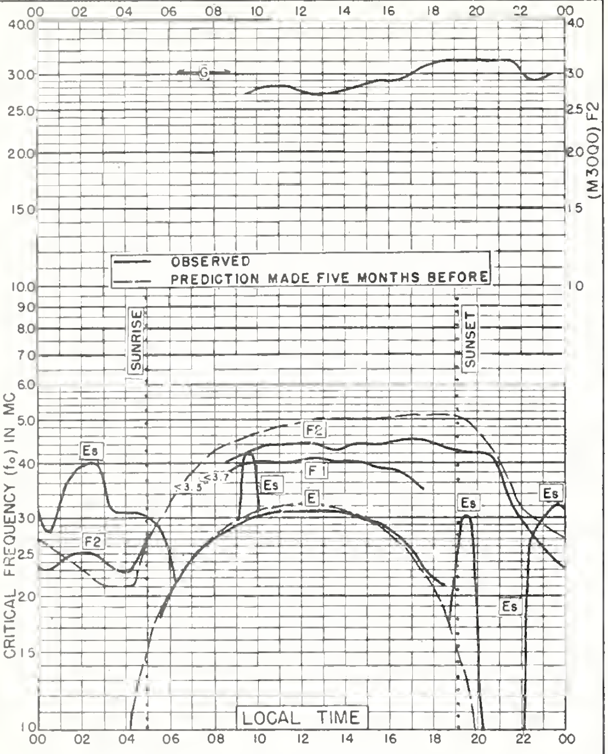


Fig. 41. WINNIPEG, CANADA
49.9°N, 97.4°W AUGUST 1953

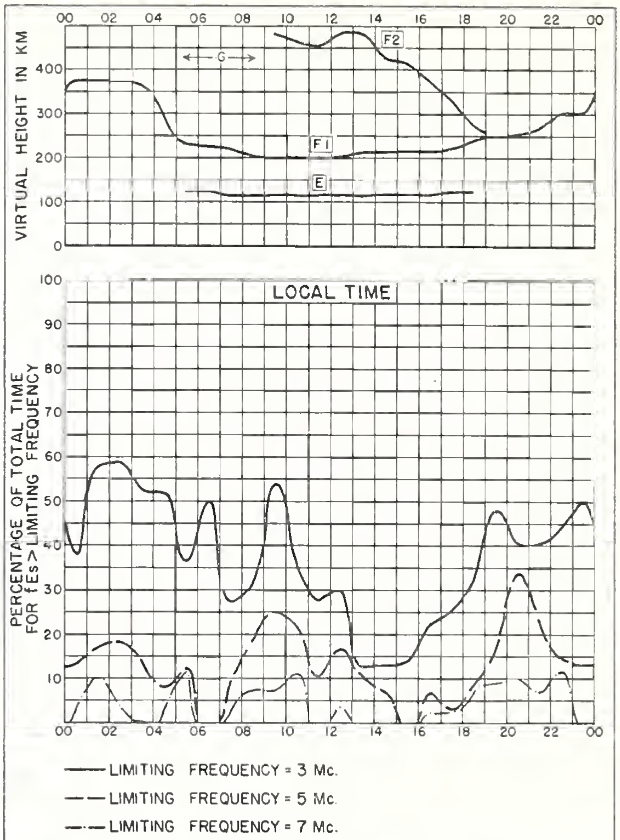


Fig. 42. WINNIPEG, CANADA AUGUST 1953

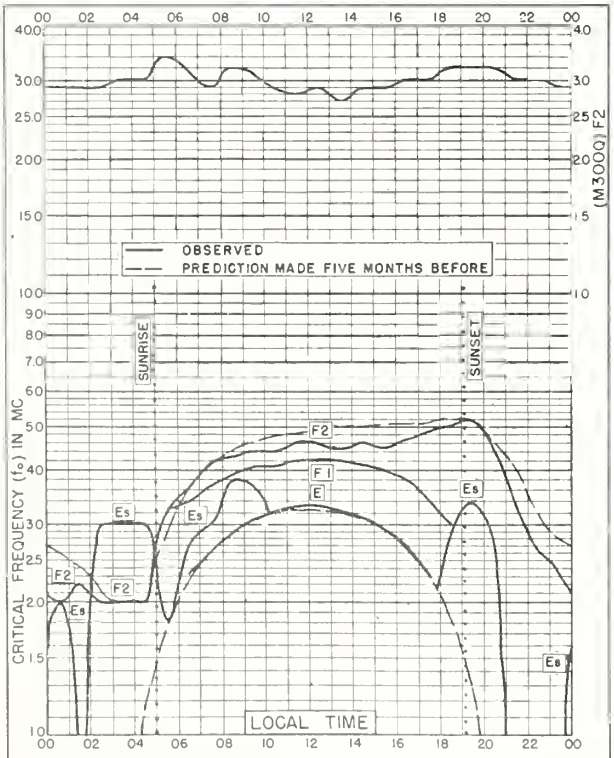
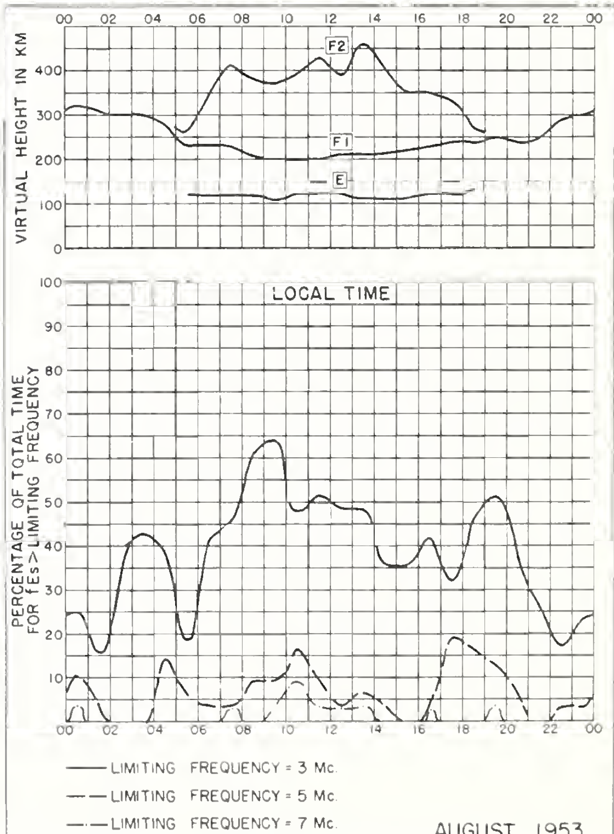


Fig. 43. ST. JOHN'S, NEWFOUNDLAND
47.6°N, 52.7°W AUGUST 1953



AUGUST 1953
Fig. 44. ST. JOHN'S, NEWFOUNDLAND

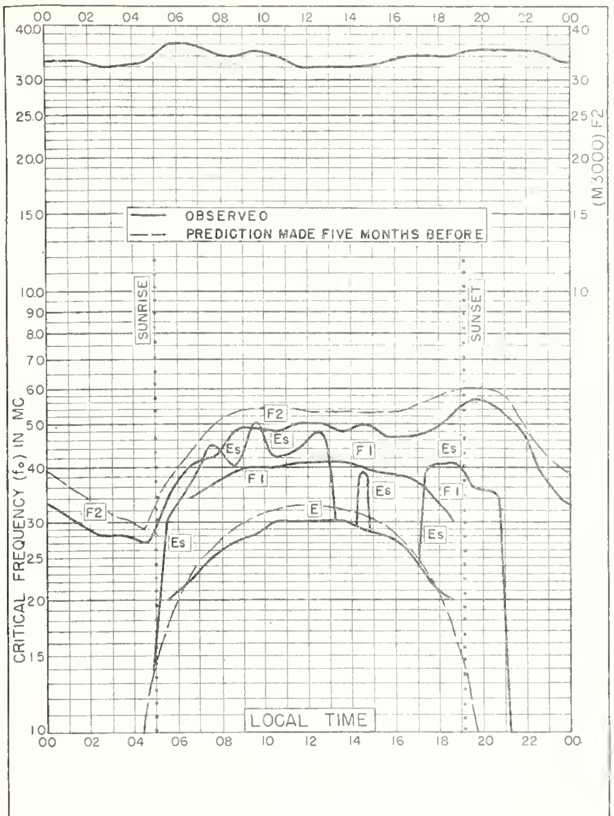
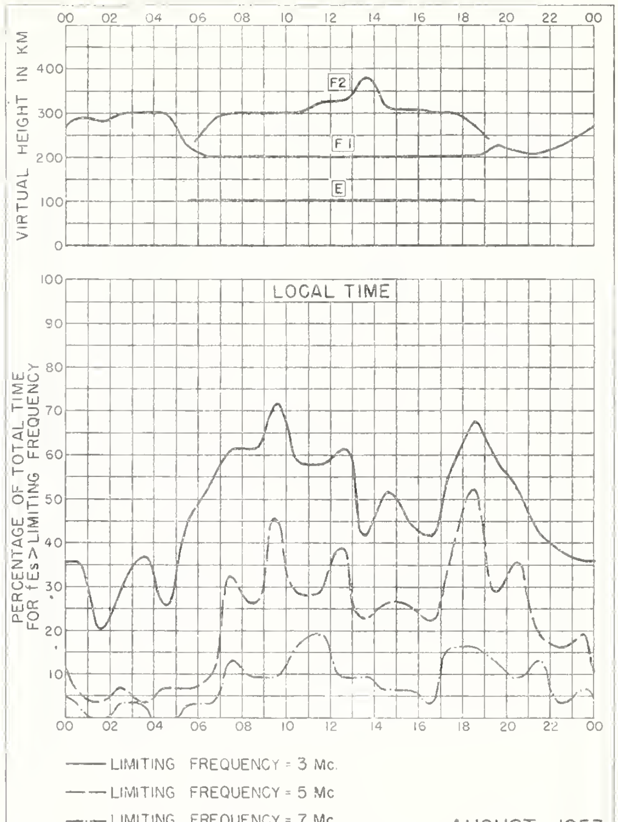


Fig. 45. SCHWARZENBURG, SWITZERLAND
46.8° N, 7.3° E AUGUST 1953



AUGUST 1953
Fig. 46. SCHWARZENBURG, SWITZERLAND

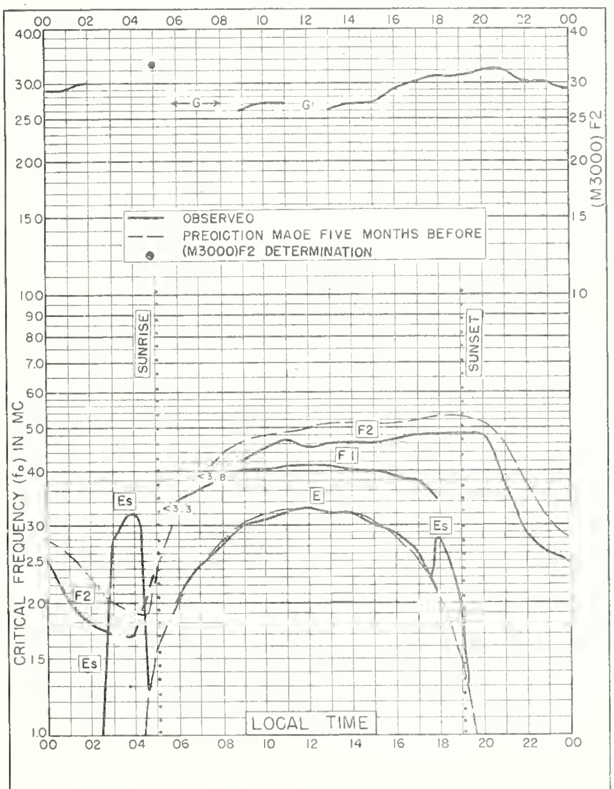


Fig. 47. OTTAWA, CANADA
45.4° N, 75.9° W AUGUST 1953

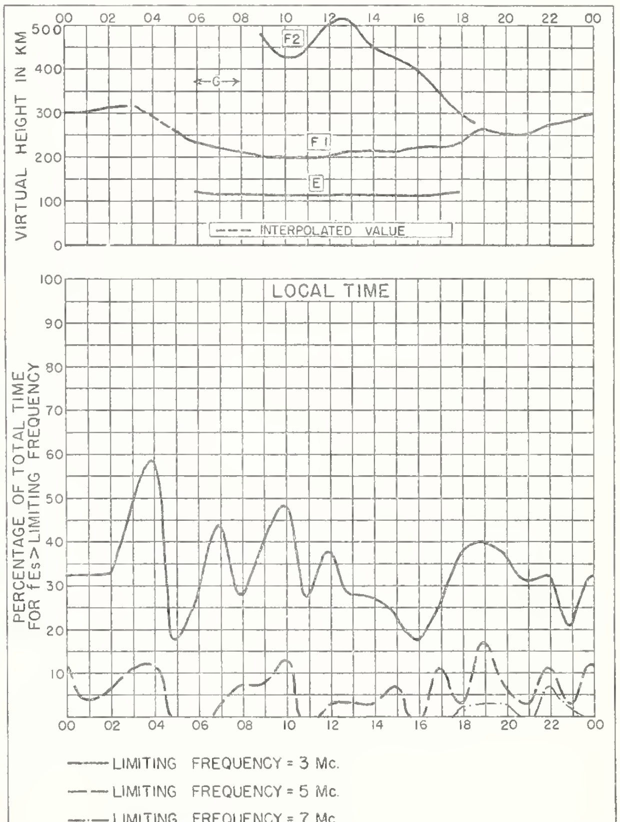


Fig. 48. OTTAWA, CANADA AUGUST 1953

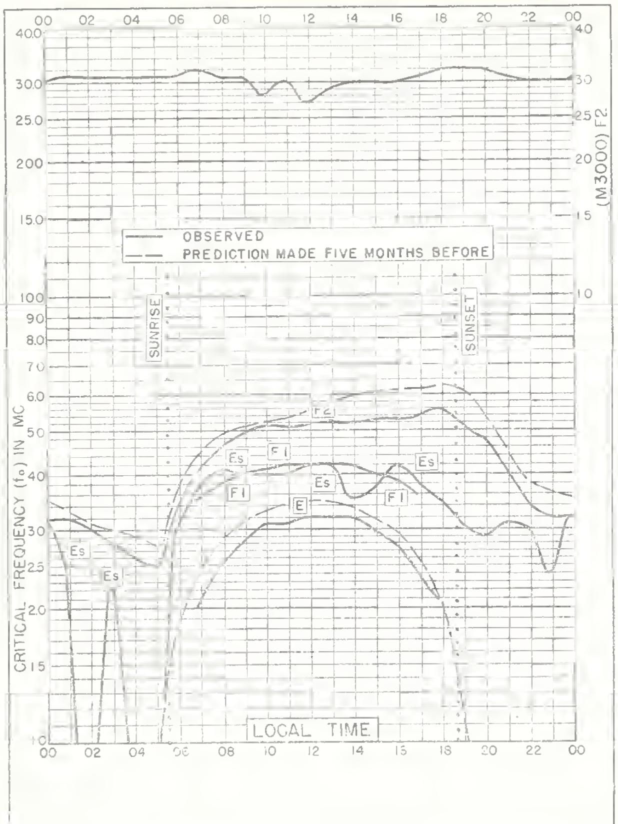
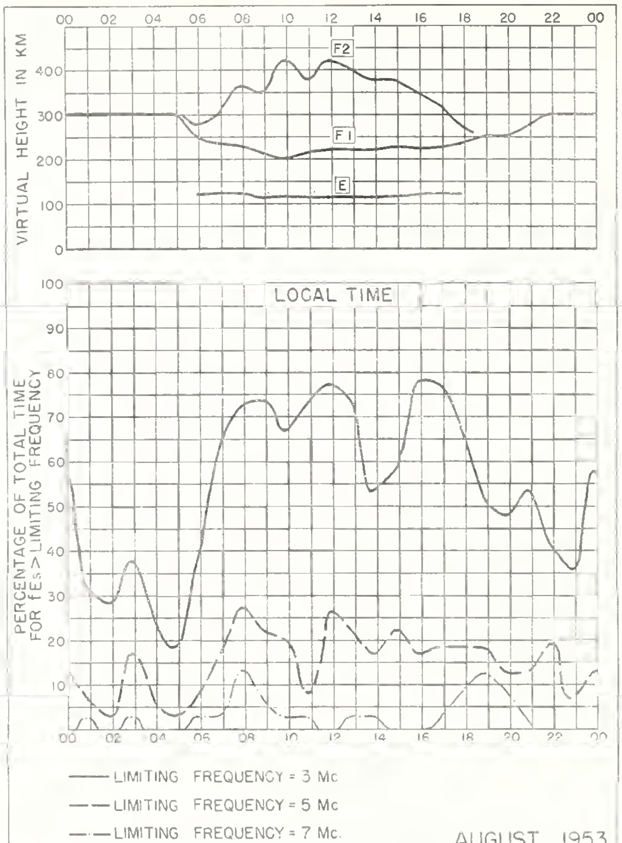


Fig. 49. BATON ROUGE, LOUISIANA
30.5° N, 91.2° W AUGUST 1953



AUGUST 1953
Fig. 50. BATON ROUGE, LOUISIANA

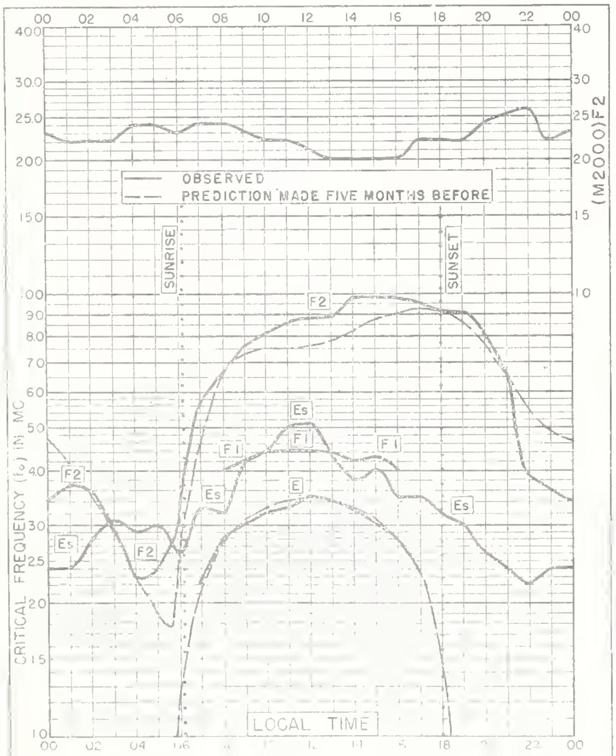
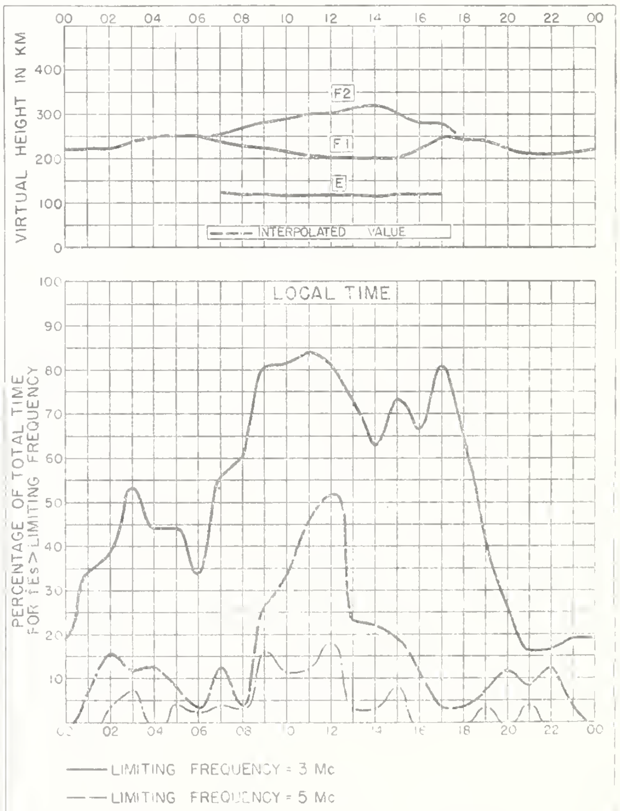


Fig. 51. LEOPOLDVILLE, BELGIAN CONGO
4.3° S, 15.3° E AUGUST 1953



AUGUST 1953
Fig. 52. LEOPOLDVILLE, BELGIAN CONGO

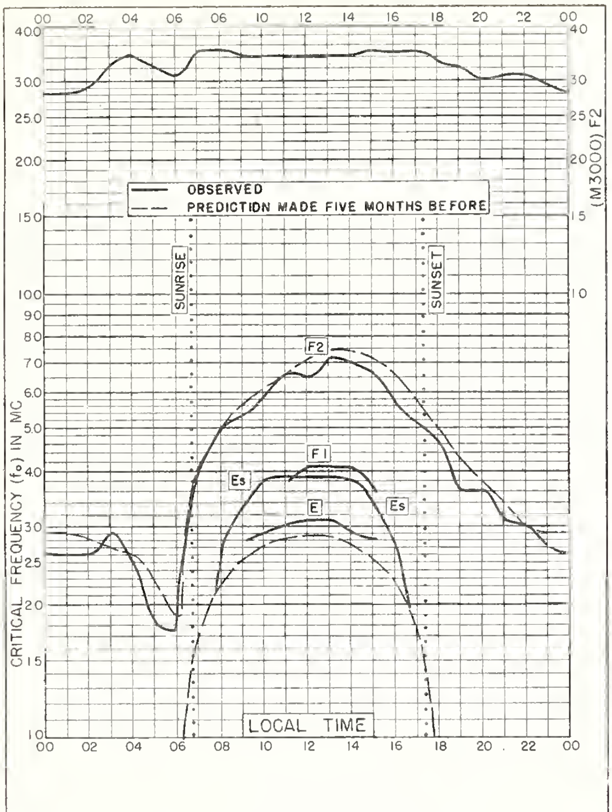
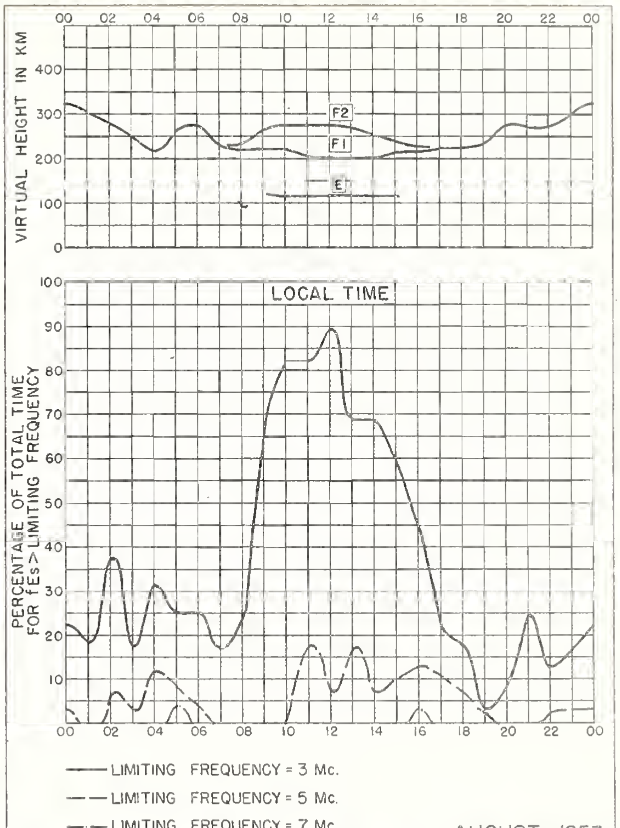


Fig. 53. BUENOS AIRES, ARGENTINA
34.5° S, 58.5° W AUGUST 1953



AUGUST 1953

Fig. 54. BUENOS AIRES, ARGENTINA

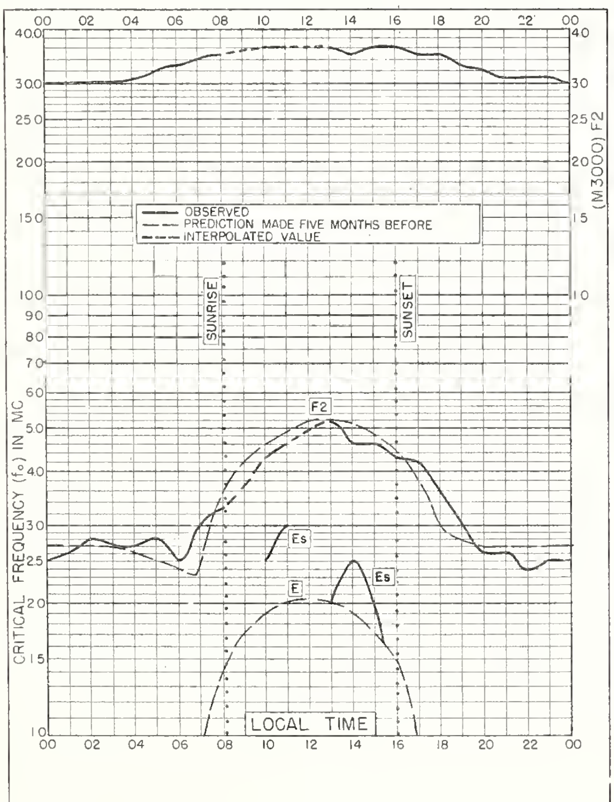


Fig. 55. DECEPCION I.
63.0° S, 60.7° W AUGUST 1953

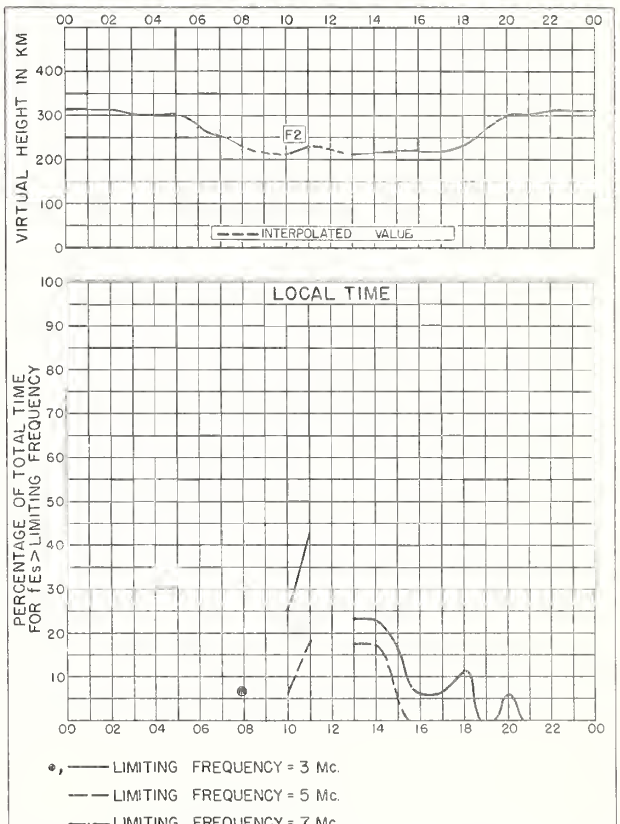


Fig. 56 DECEPCION I. AUGUST 1953

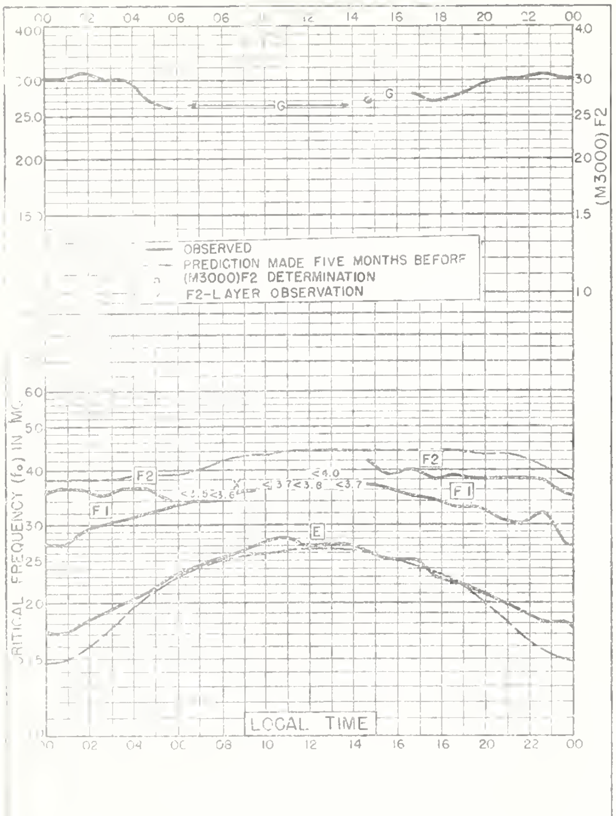


Fig 57. RESOLUTE BAY, CANADA
74.7° N, 94.9° W JULY 1953

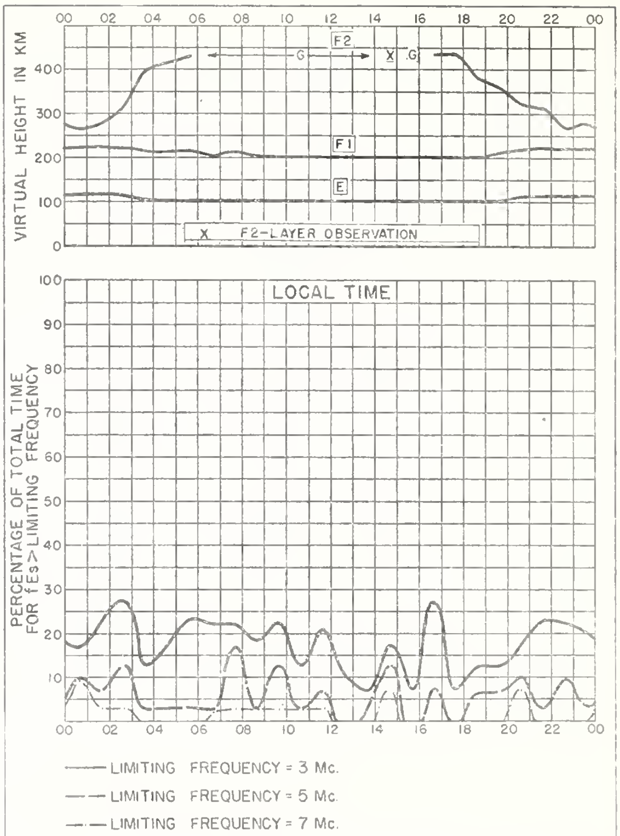


Fig. 58. RESOLUTE BAY, CANADA JULY 1953

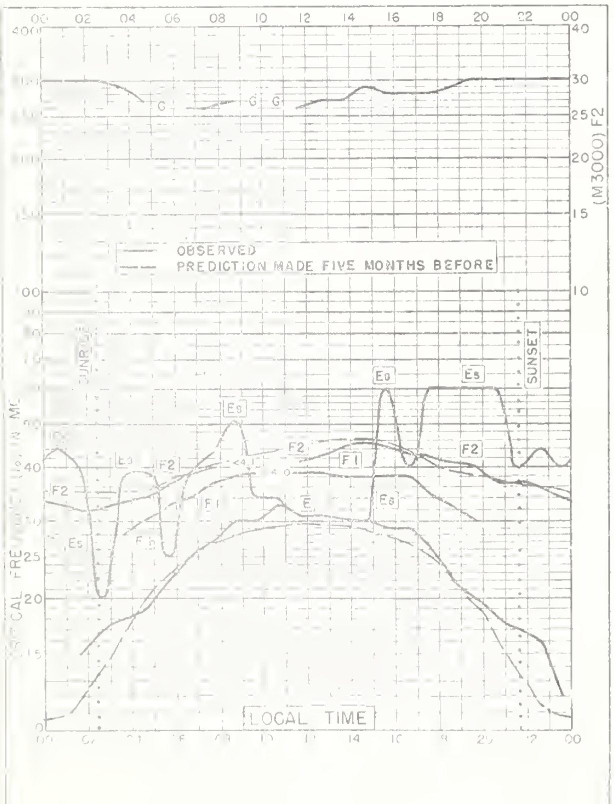


Fig 59. BAKER LAKE, CANADA
64.3° N, 96.0° W JULY 1953

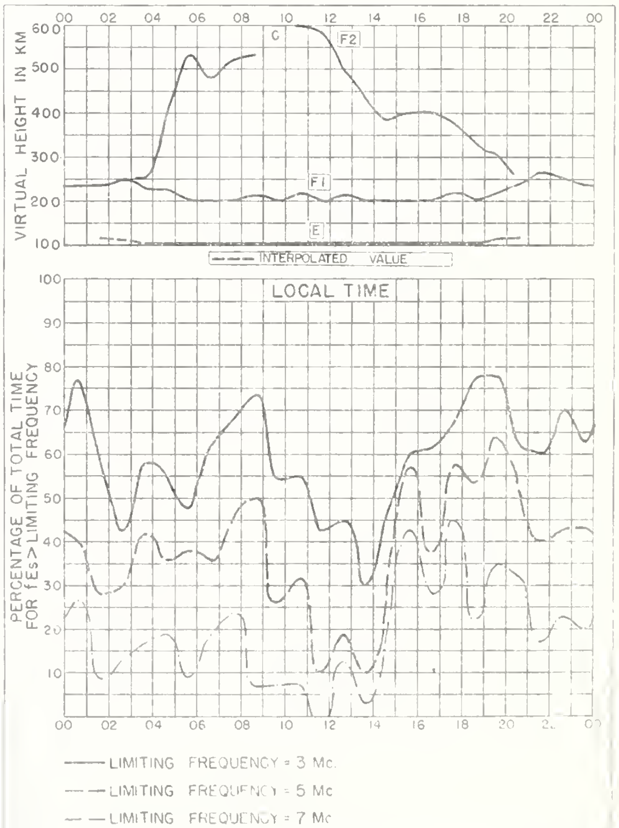


Fig. 60. BAKER LAKE, CANADA JULY 1953

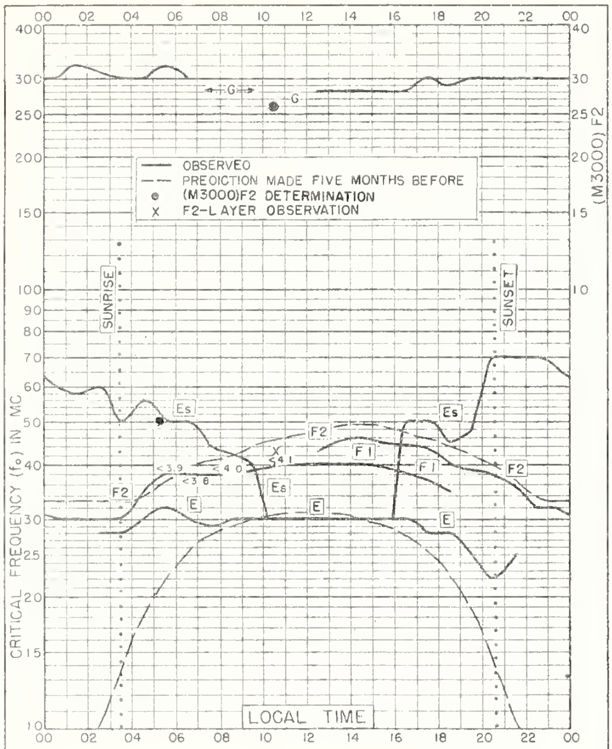


Fig. 61. FORT CHIMO, CANADA
58.1°N, 68.3°W JULY 1953

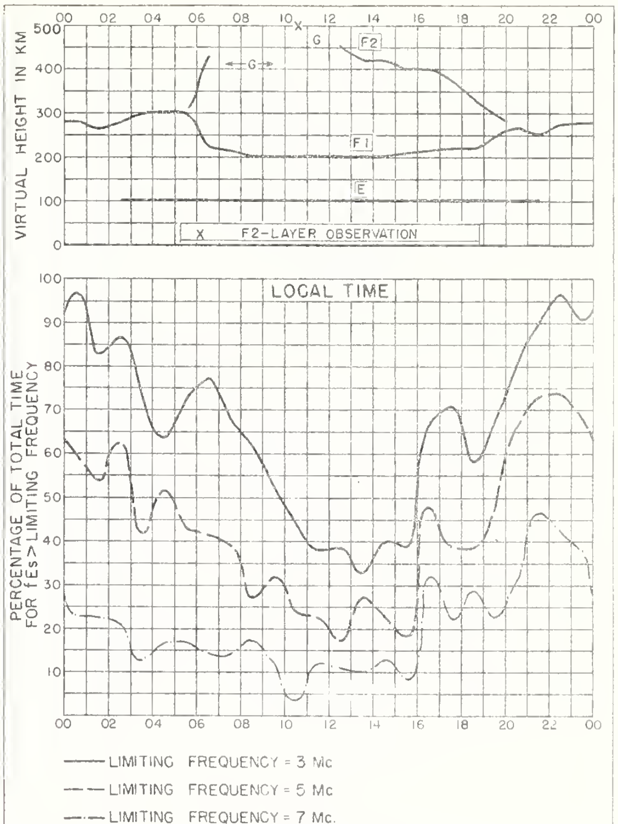


Fig 62. FORT CHIMO, CANADA JULY 1953

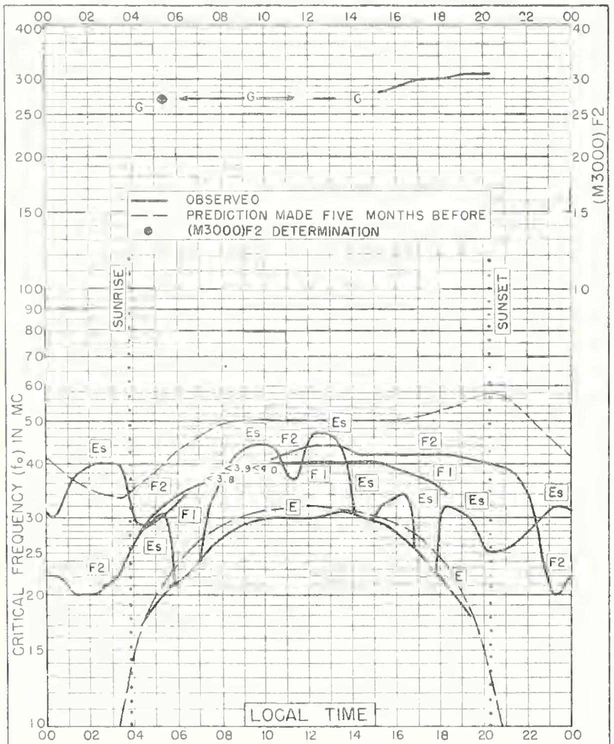


Fig. 63. PRINCE RUPERT, CANADA
54.3° N, 130.3° W JULY 1953

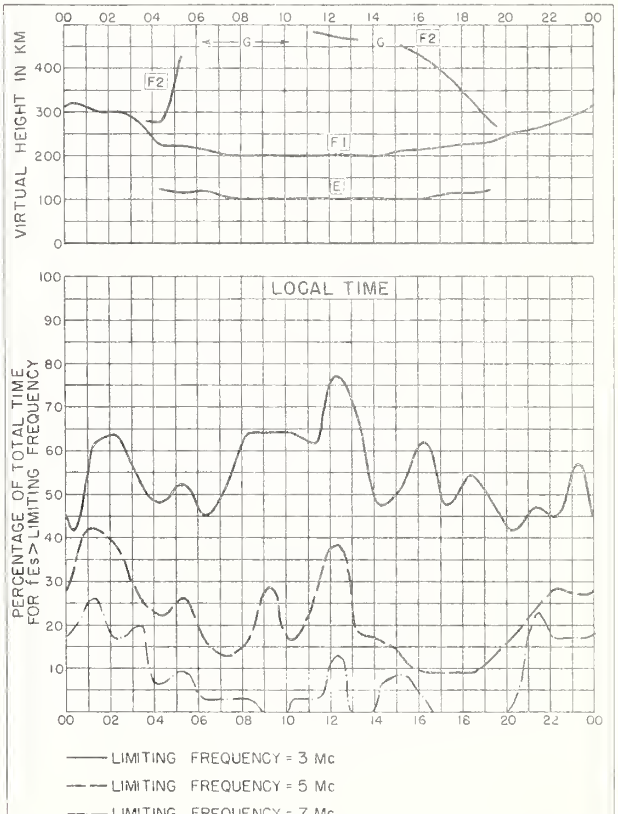


Fig. 64. PRINCE RUPERT, CANADA JULY 1953

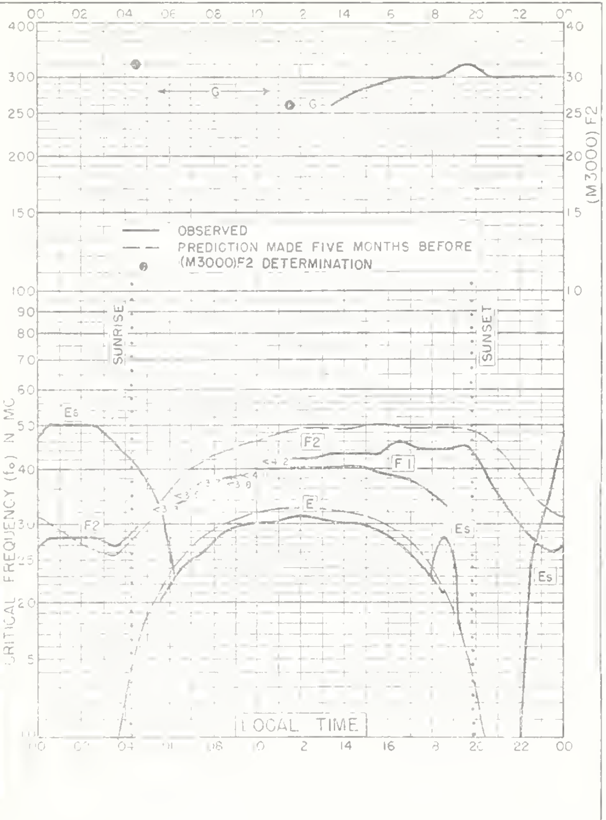


Fig. 65. WINNIPEG, CANADA
49.9° N, 97.4° W JULY 1953

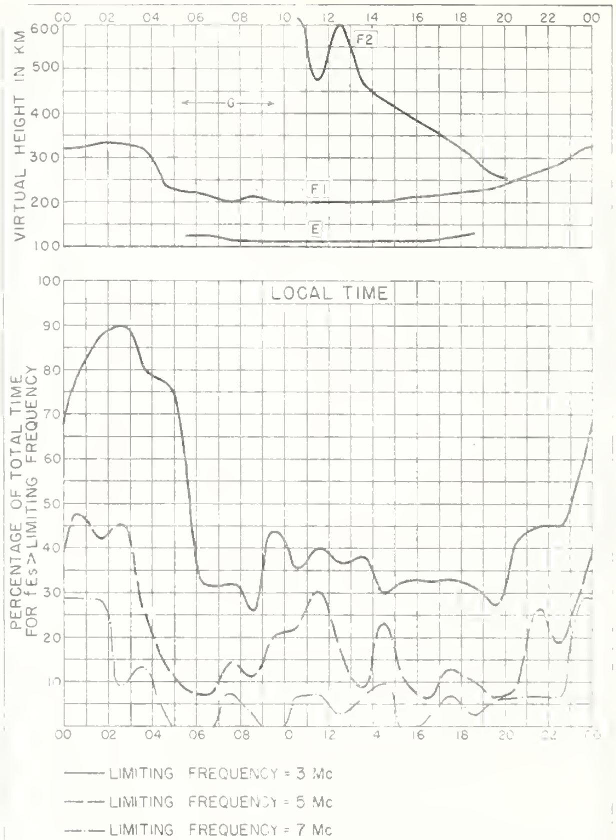


Fig. 66 WINNIPEG, CANADA JULY 1953

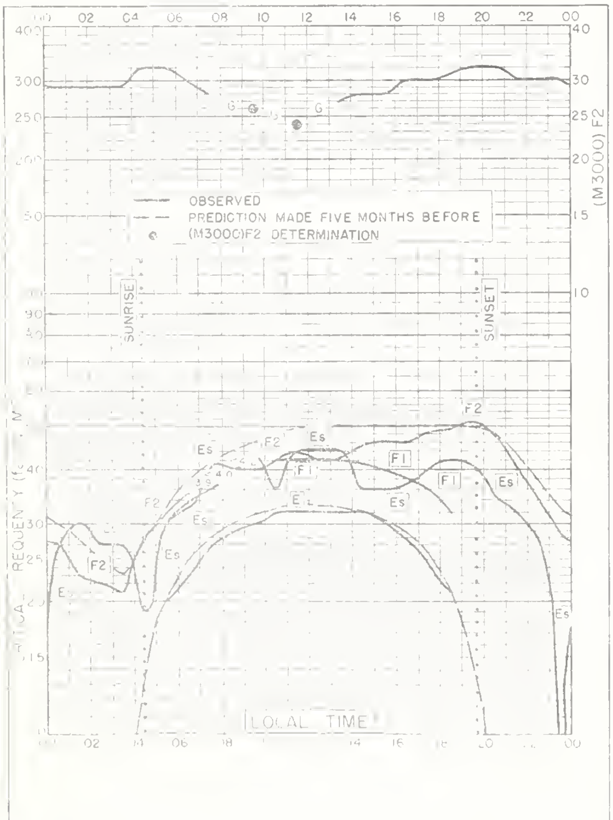


Fig 67 ST. JOHN'S, NEWFOUNDLAND
47.6° N, 52.7° W JULY 1953

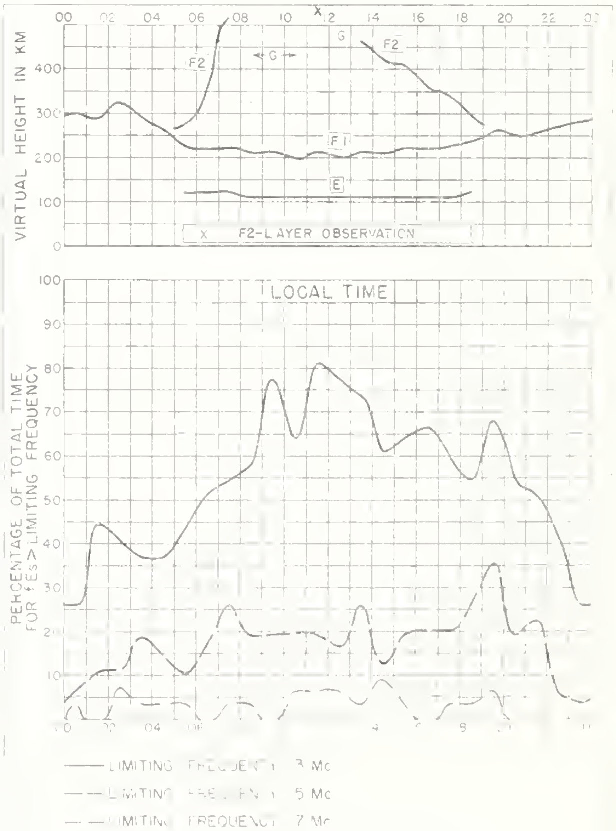


Fig 68 ST. JOHN'S, NEWFOUNDLAND JULY 1953

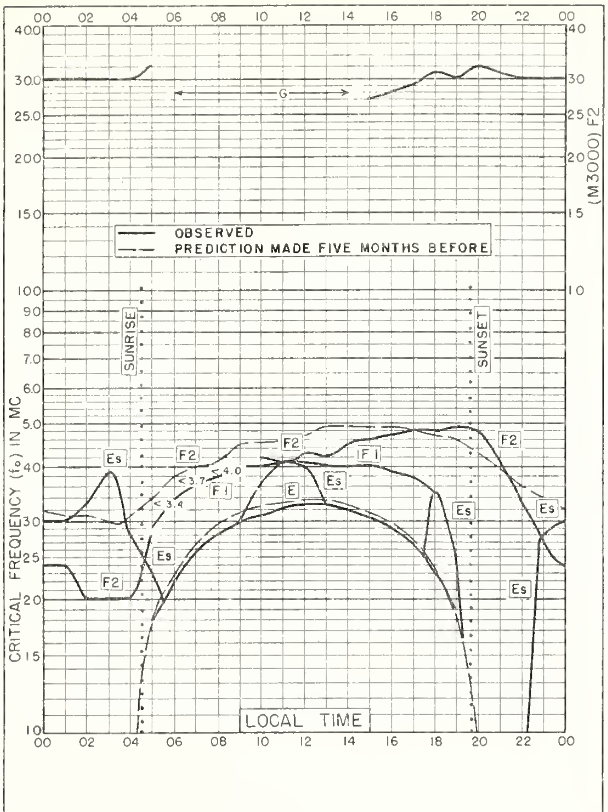


Fig. 69. OTTAWA, CANADA
45.4°N, 75.9°W JULY 1953

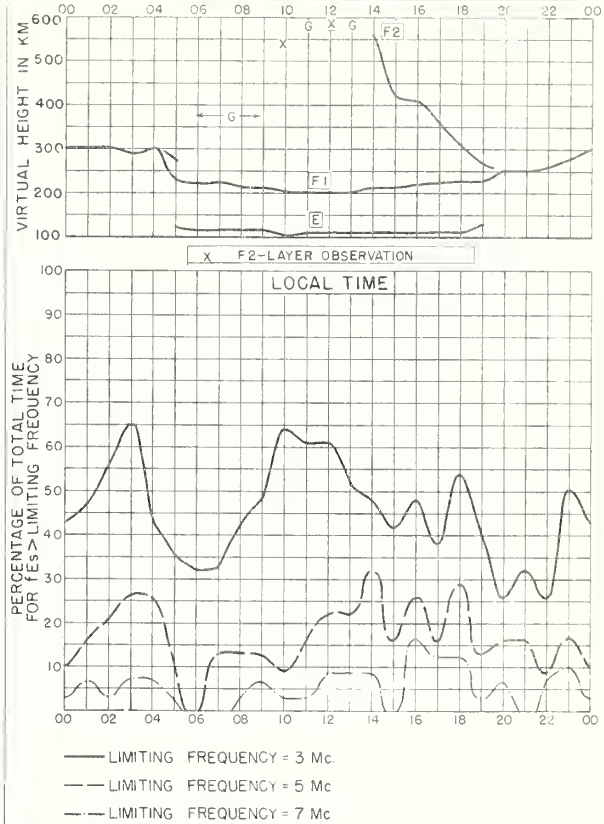


Fig. 70. OTTAWA, CANADA JULY 1953

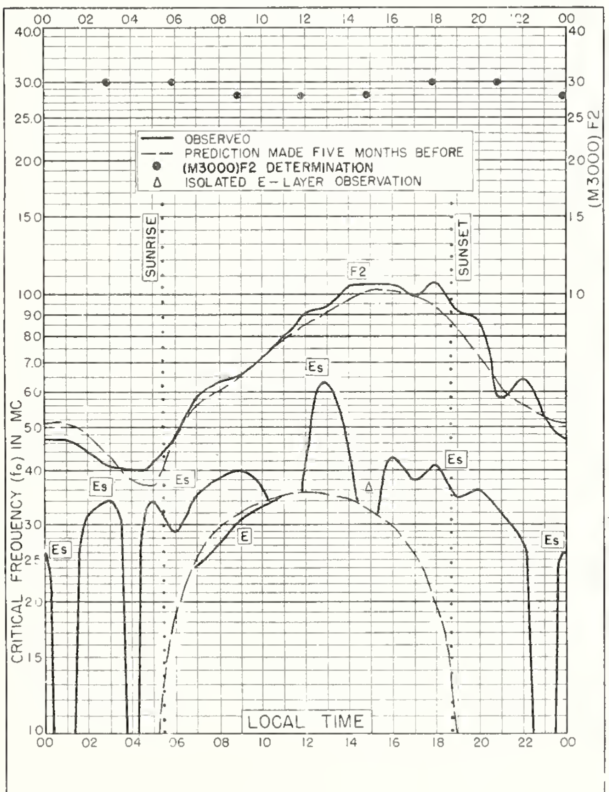


Fig. 71. CALCUTTA, INDIA
22.6°N, 88.4°E JULY 1953

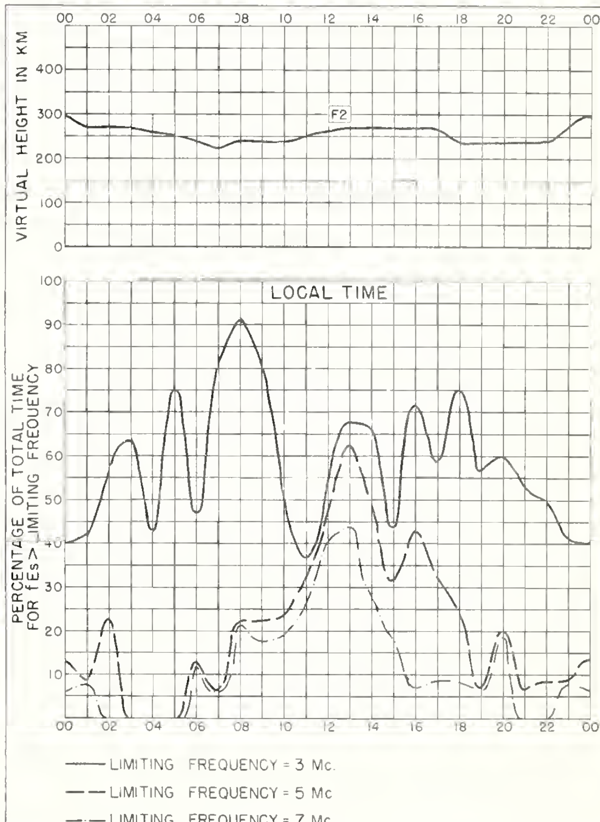


Fig 72. CALCUTTA, INDIA JULY 1953

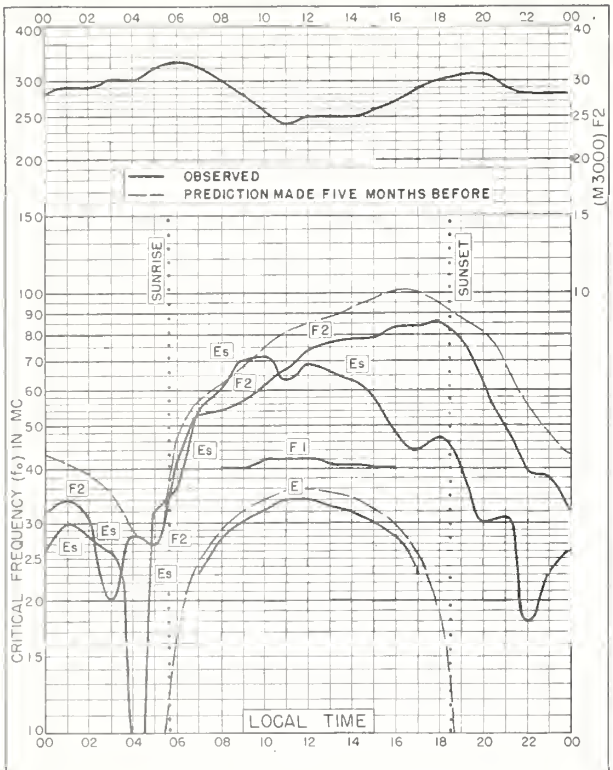


Fig. 73. BAGUIO, P.I.
16.4° N, 120.6° E JULY 1953

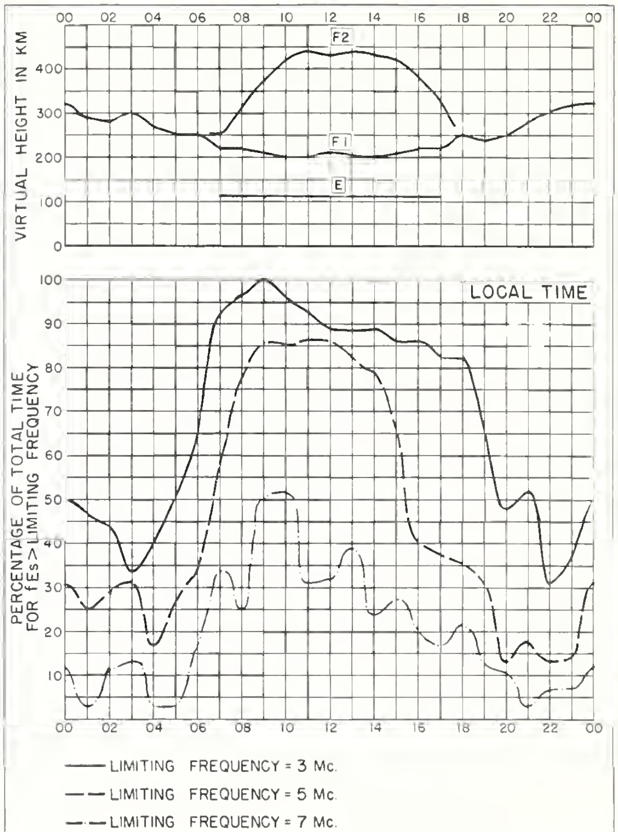


Fig. 74 BAGUIO, P.I. JULY 1953

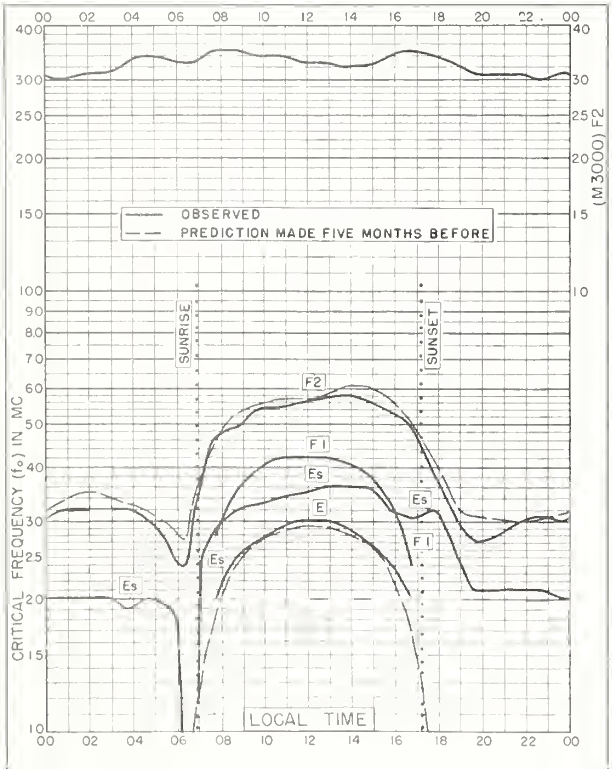


Fig. 75. WATHEROO, W. AUSTRALIA
30.3°S, 115.9°E JULY 1953

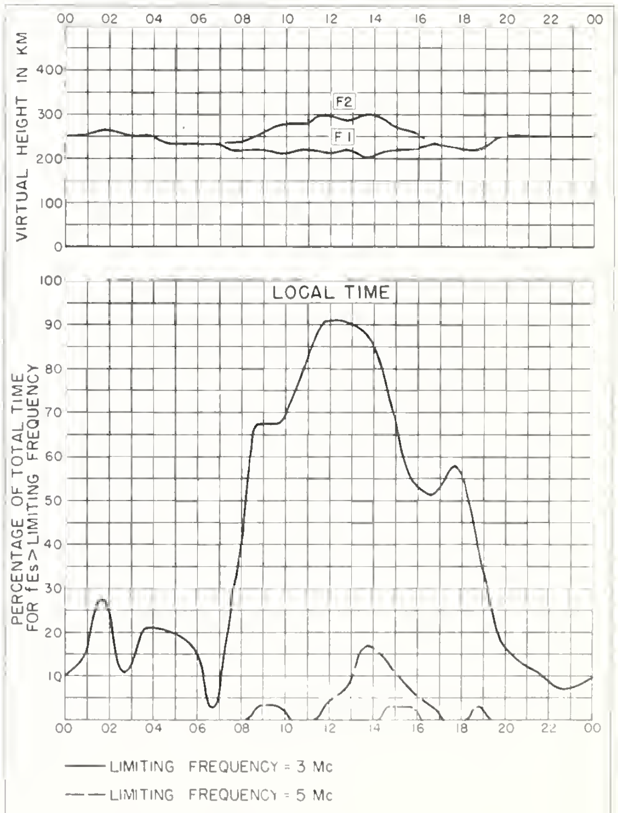


Fig 76. WATHEROO, W. AUSTRALIA JULY 1953

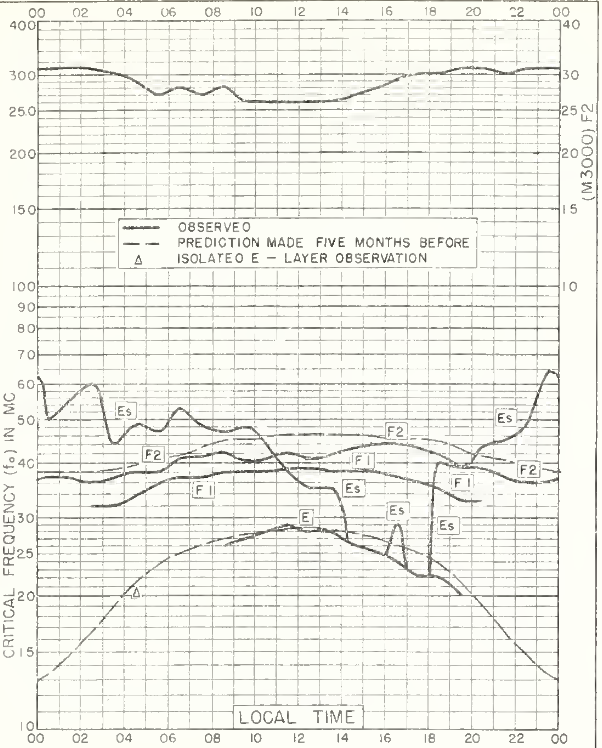


Fig. 77 POINT BARROW, ALASKA
71.3°N, 156.8° W JUNE 1953

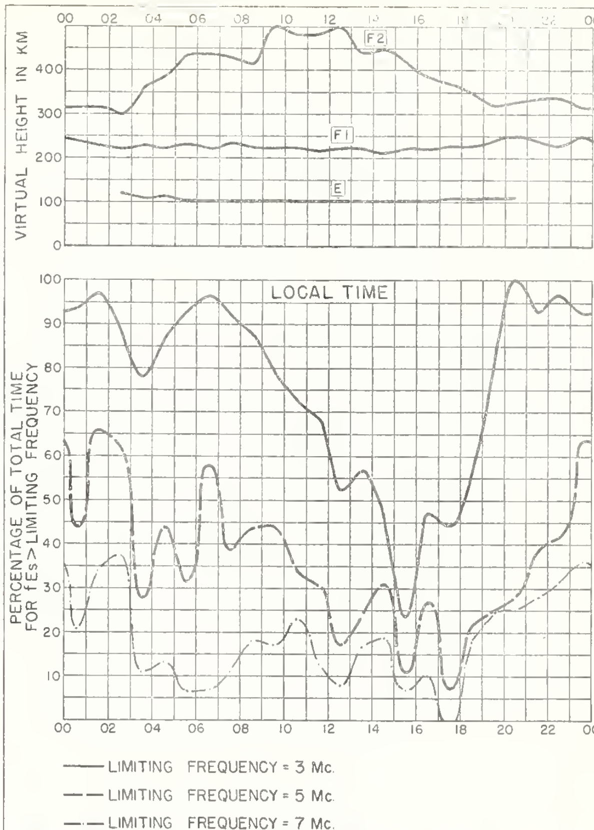


Fig. 78 POINT BARROW, ALASKA JUNE 1953

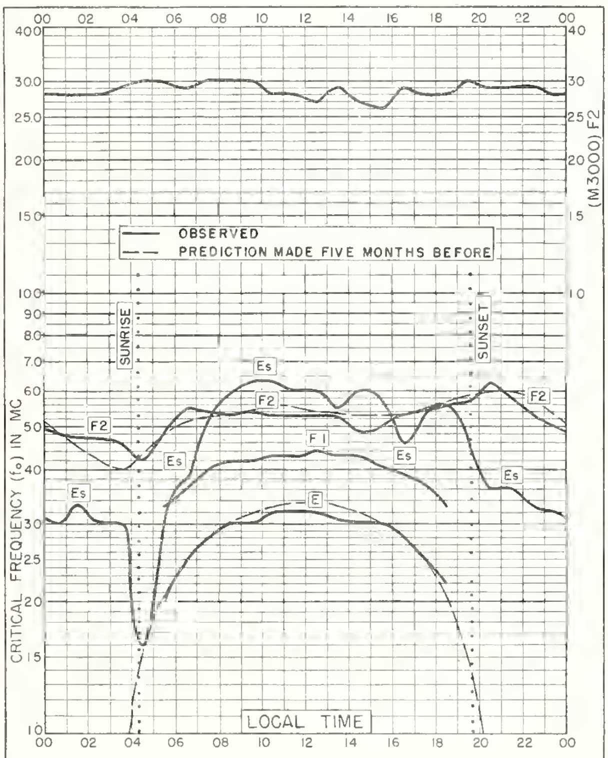


Fig. 79. WAKKANAI, JAPAN
45.4° N, 141.7° E JUNE 1953

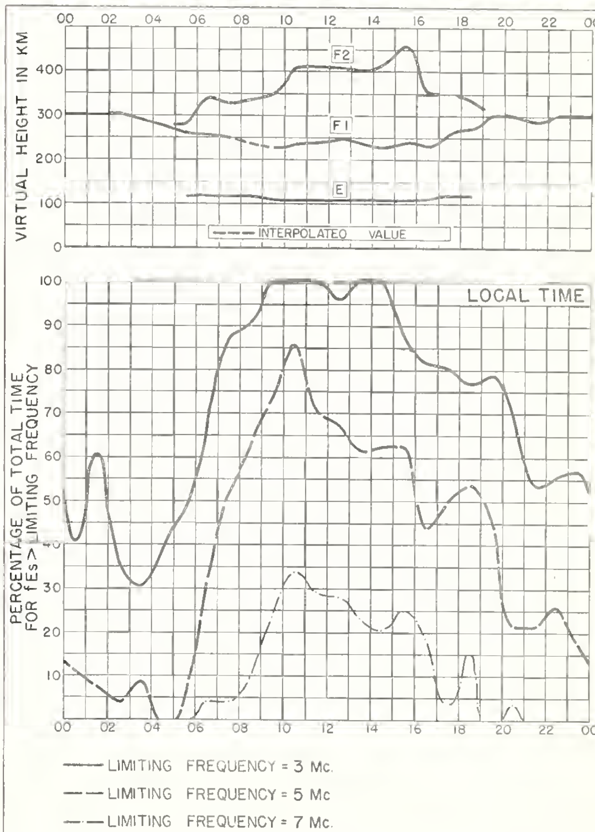


Fig. 80. WAKKANAI, JAPAN JUNE 1953

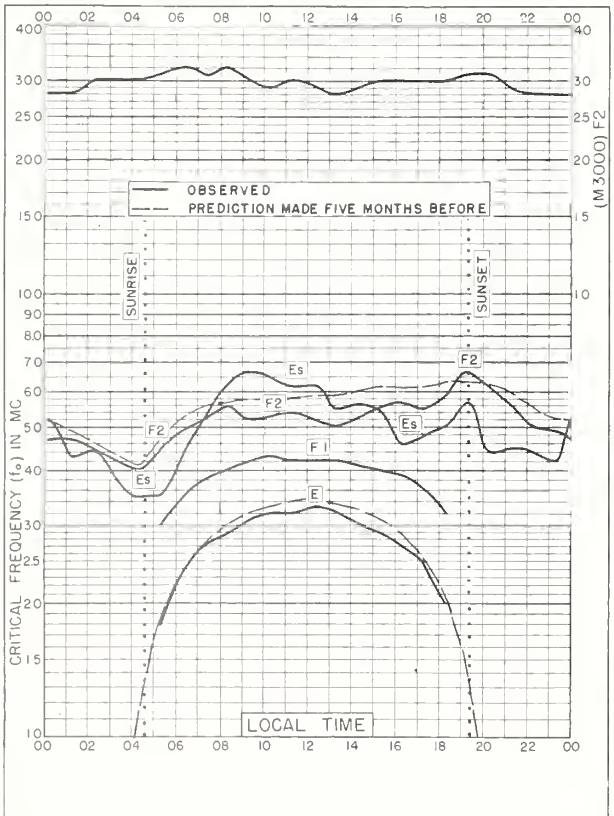


Fig. 81. AKITA, JAPAN
39.7° N, 140.1° E
JUNE 1953

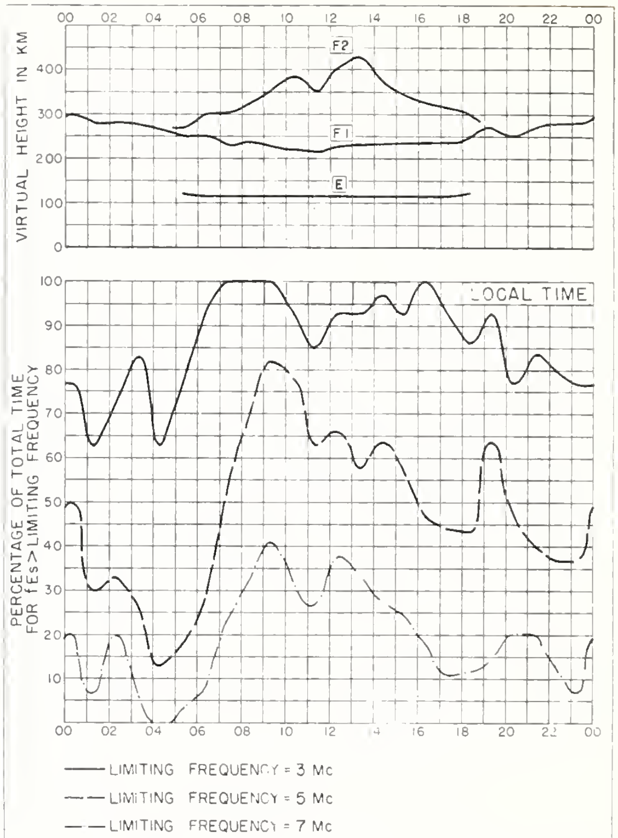


Fig. 82. AKITA, JAPAN
JUNE 1953

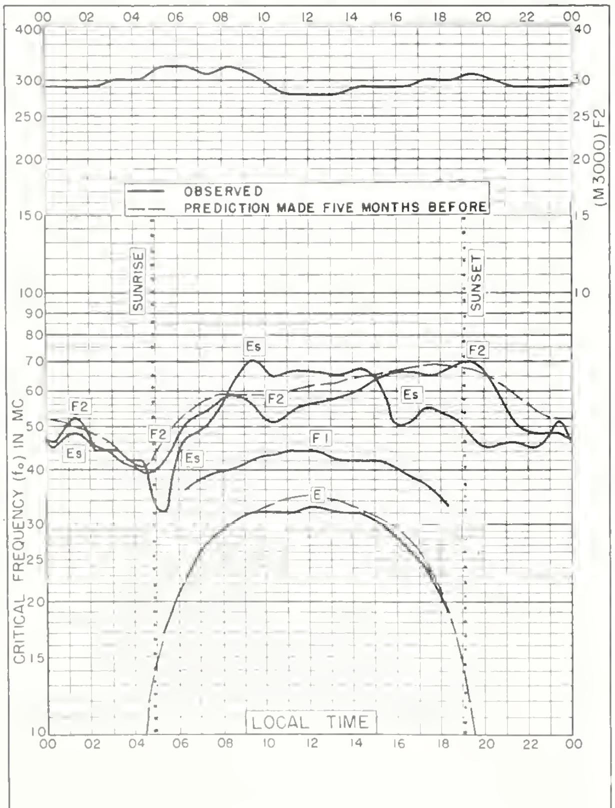


Fig. 83. TOKYO, JAPAN
35.7° N, 139.5° E
JUNE 1953

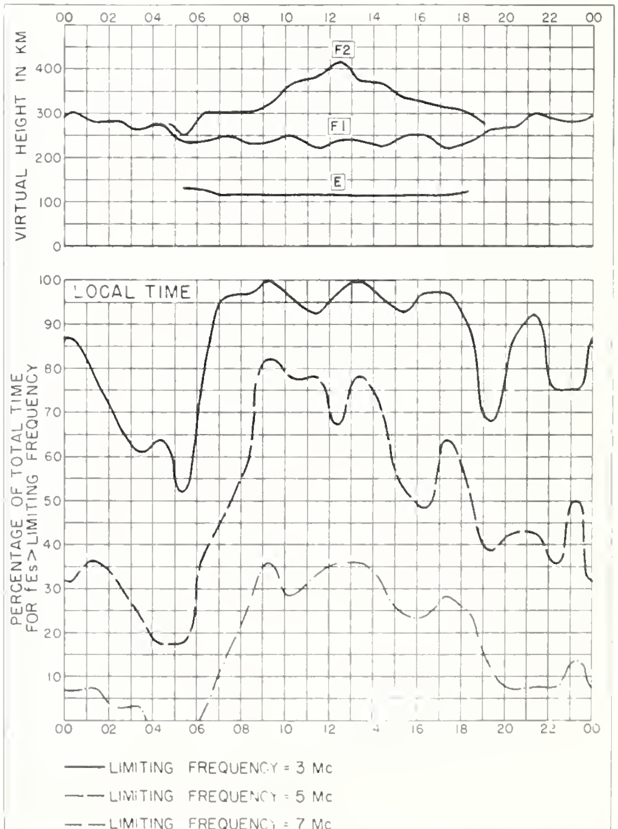


Fig. 84. TOKYO, JAPAN
JUNE 1953

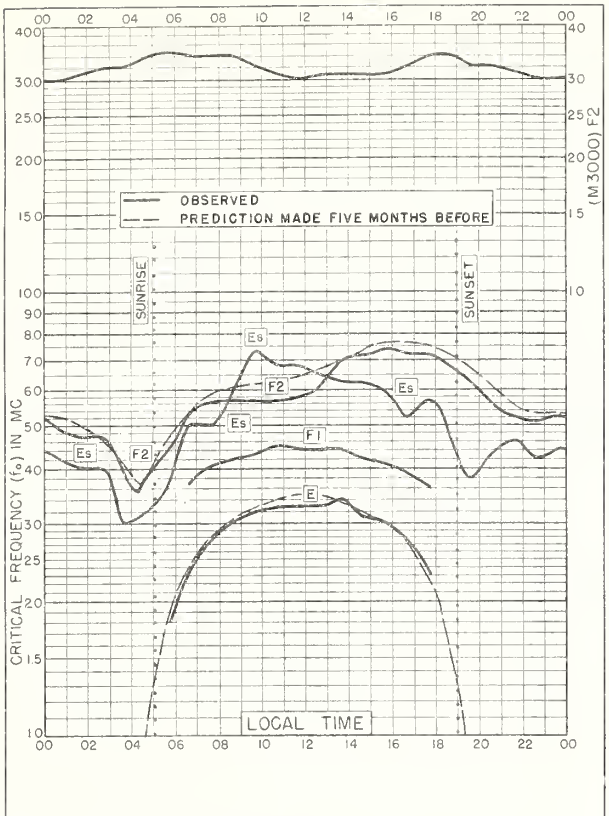


Fig 85. YAMAGAWA, JAPAN
31.2° N, 130.6° E JUNE 1953

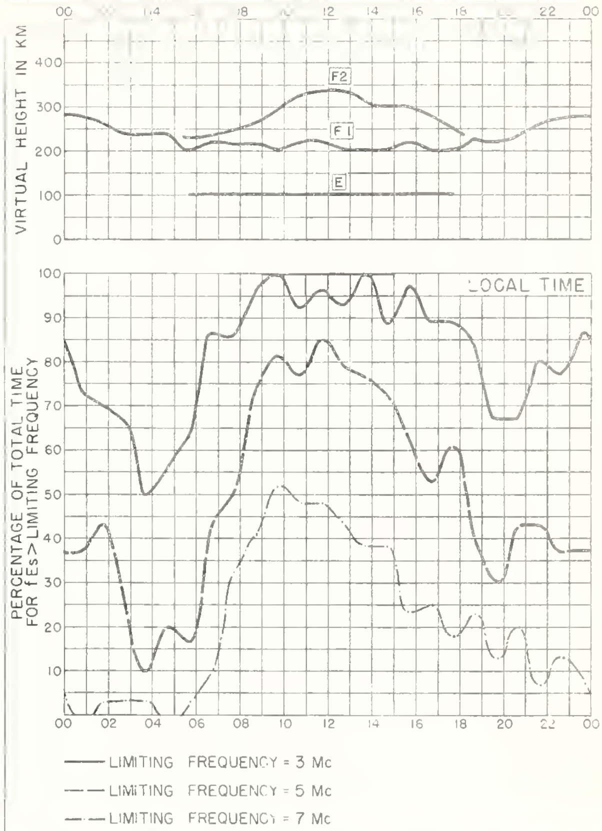


Fig 86. YAMAGAWA, JAPAN JUNE 1953

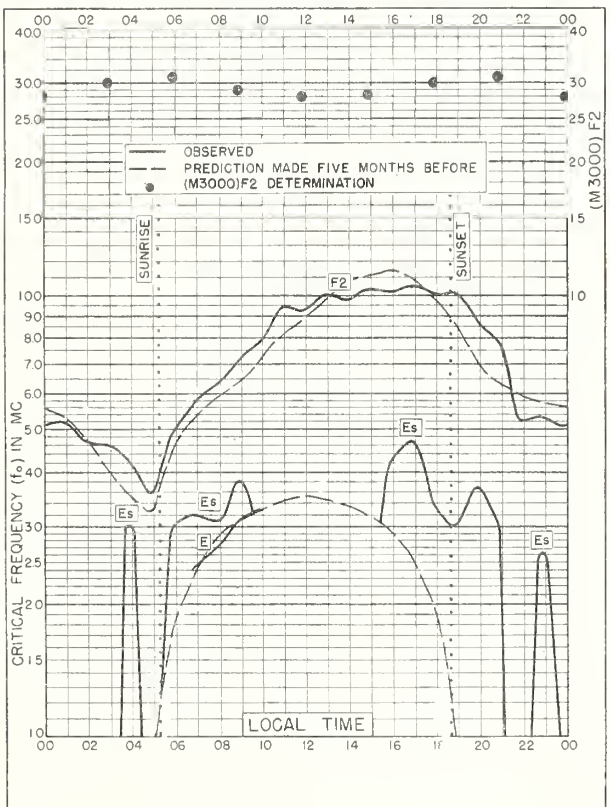


Fig. 87. CALCUTTA, INDIA
22.6° N, 88.4° E JUNE 1953

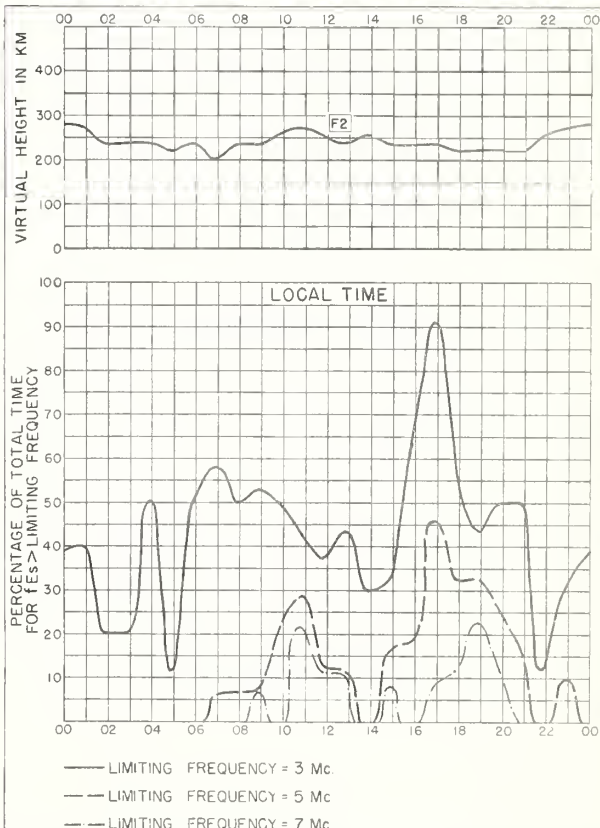


Fig. 88 CALCUTTA, INDIA JUNE 1953

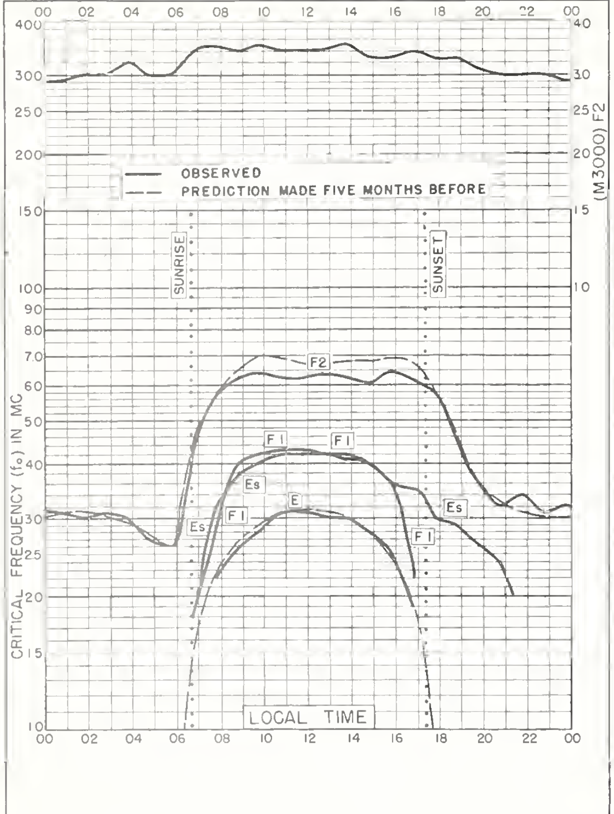


Fig. 89 RAROTONGA I.
21.3°S, 159.8°W JUNE 1953

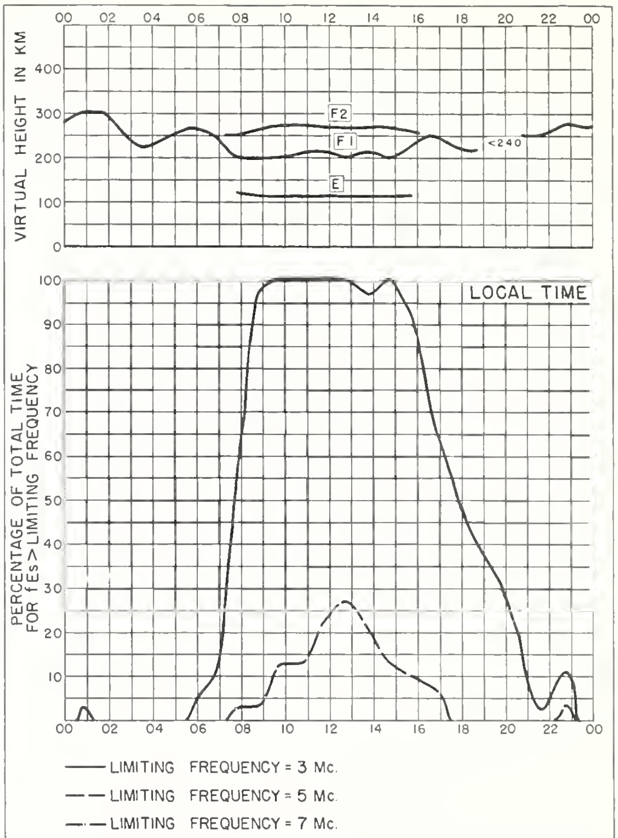


Fig. 90 RAROTONGA I. JUNE 1953

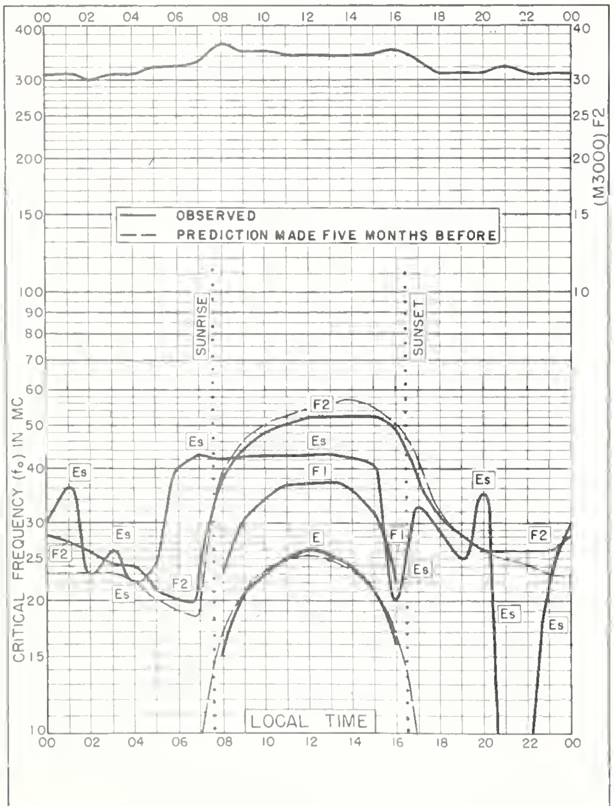
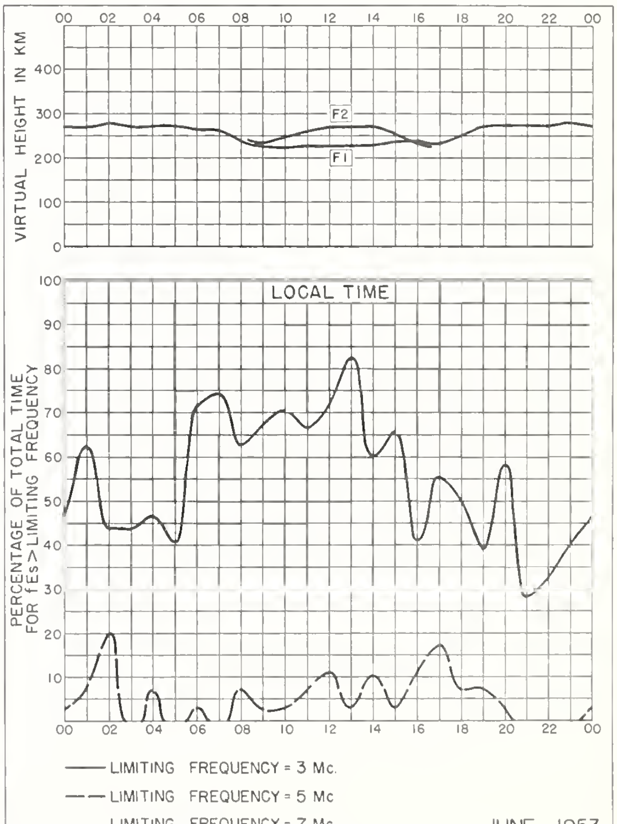


Fig. 91. CHRISTCHURCH, NEW ZEALAND
43.6°S, 172.7°E JUNE 1953



JUNE 1953
Fig. 92. CHRISTCHURCH, NEW ZEALAND

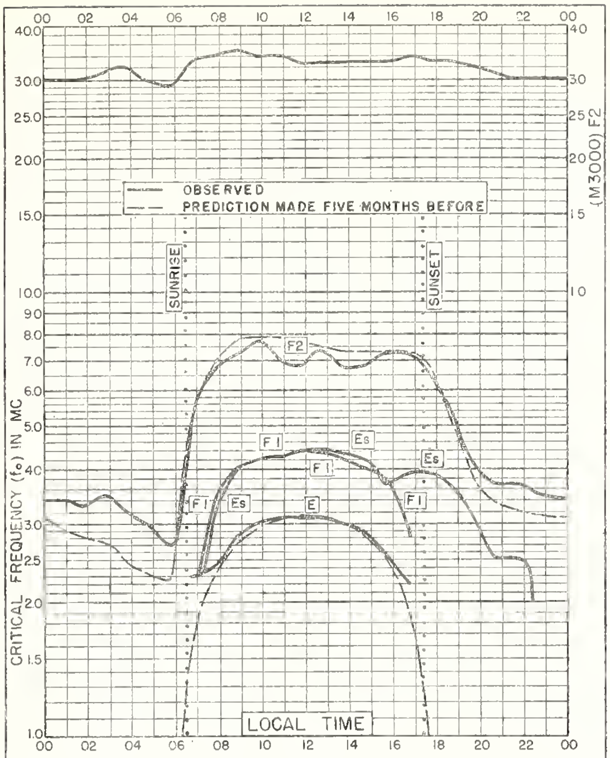


Fig. 93. RAROTONGA I.
21.3°S, 159.8°W MAY 1953

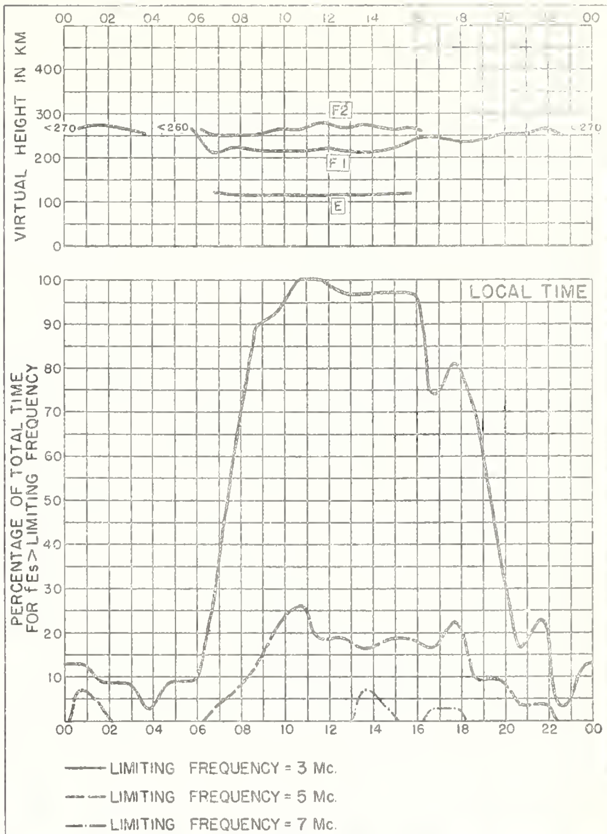


Fig. 94. RAROTONGA I. MAY 1953

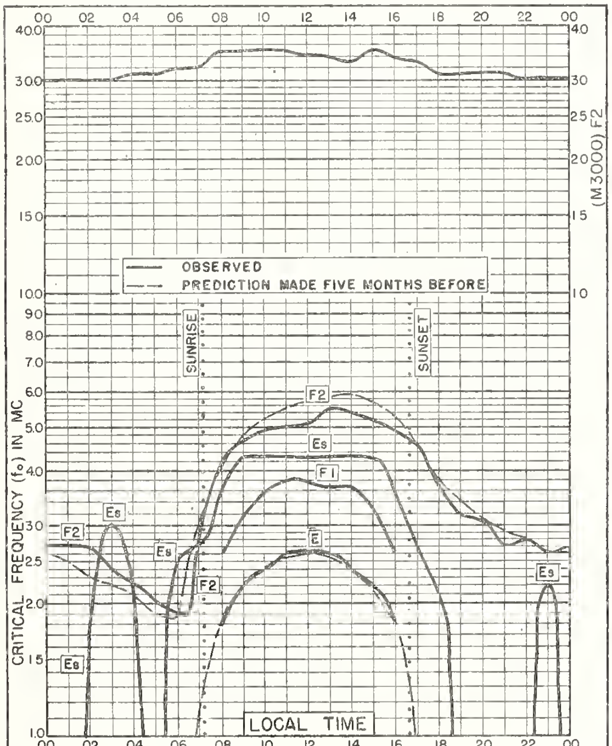


Fig. 95. CHRISTCHURCH, NEW ZEALAND
43.6°S, 172.7°E MAY 1953

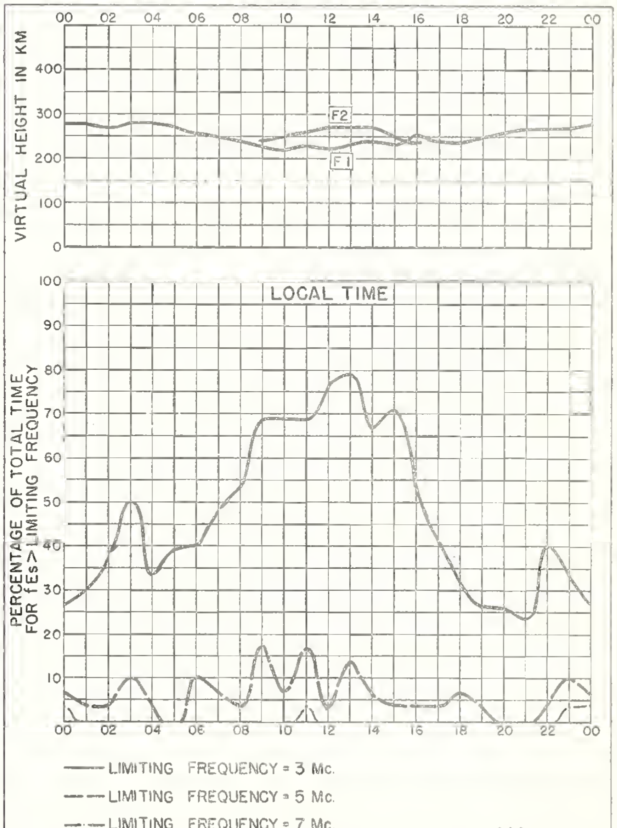


Fig. 96. CHRISTCHURCH, NEW ZEALAND MAY 1953

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[A list of CRPL Section Reports is available from the Central Radio Propagation Laboratory upon request]

Daily:

Radio disturbance forecasts, every half hour from broadcast station WWV of the National Bureau of Standards.
Telephoned and telegraphed reports of ionospheric, solar, geomagnetic, and radio propagation data.

Semiweekly:

CRPL—J. North Atlantic Radio Propagation Forecast (of days most likely to be disturbed during following month).
CRPL—Jp. North Pacific Radio Propagation Forecast (of days most likely to be disturbed during following month).

Semimonthly:

CRPL—Ja. Semimonthly Frequency Revision Factors For CRPL Basic Radio Propagation Prediction Reports.

Monthly:

CRPL—D. Basic Radio Propagation Predictions—Three months in advance. (Dept. of the Army, TB 11-499-, monthly supplements to TM 11-499; Dept. of the Navy, DNC 13 ( ) series; Dept. of the Air Force, TO 16-1B-2 series.)
CRPL—F. Ionospheric Data.
*IRPL—A. Recommended Frequency Bands for Ships and Aircraft in the Atlantic and Pacific.
*IRPL—H. Frequency Guide for Operating Personnel.

Circulars of the National Bureau of Standards:

NBS Circular 462. Ionospheric Radio Propagation.
NBS Circular 465. Instructions for the Use of Basic Radio Propagation Predictions.

Reports issued in past:

IRPL—C61. Report of the International Radio Propagation Conference, 17 April to 5 May 1944.
IRPL—G1 through G12. Correlation of D. F. Errors With Ionospheric Conditions.
(G1, G3, available. Others out of print; see second footnote.)
IRPL—R. Nonscheduled reports:
R4. Methods Used by IRPL for the Prediction of Ionosphere Characteristics and Maximum Usable Frequencies.
R5. Criteria for Ionospheric Storminess.
**R6. Experimental Studies of Ionospheric Propagation as Applied to the Loran System.
R7. Second Report on Experimental Studies of Ionospheric Propagation as Applied to the Loran System.
R9. An Automatic Instantaneous Indicator of Skip Distance and MUF.
R10. A Proposal for the Use of Rockets for the Study of the Ionosphere.
**R11. A Nomographic Method for both Prediction and Observation Correlation of Ionosphere Characteristics.
**R12. Short Time Variations in Ionosphere Characteristics.
R14. A Graphical Method for Calculating Ground Reflection Coefficients.
**R15. Predicted Limits for F2-Layer Radio Transmission Throughout the Solar Cycle.
**R17. Japanese Ionospheric Data—1943.
R18. Comparison of Geomagnetic Records and North Atlantic Radio Propagation Quality Figures—October 1943 Through May 1945.
**R21. Notes on the Preparation of Skip-Distance and MUF Charts for Use by Direction-Finder Stations. (For distances out to 4000 km.)
**R23. Solar-Cycle Data for Correlation with Radio Propagation Phenomena.
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**R30. Disturbance Rating in Values of IRPL Quality-Figure Scale from A. T. & T. Co. Transmission Disturbance Reports to Replace T. D. Figures as Reported.
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**R35. Comparison of Percentage of Total Time of Second-Multiple *Es* Reflections and That of *fEs* in Excess of 3 Mc.
IRPL—T. Reports on tropospheric propagation:
T1. Radar operation and weather. (Superseded by JANP 101.)
T2. Radar coverage and weather. (Superseded by JANP 102.)
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